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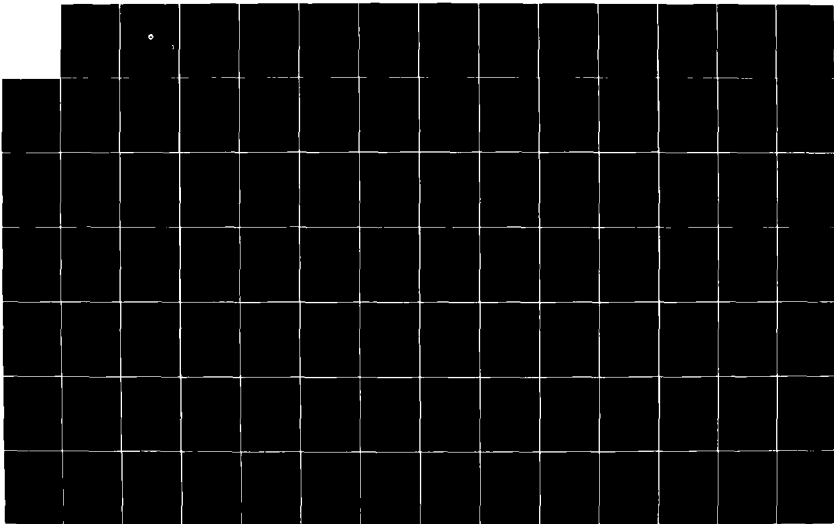
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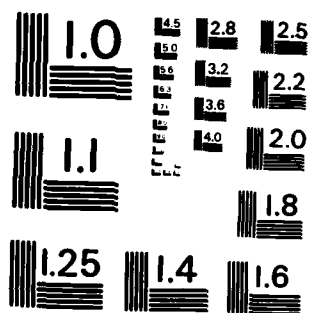
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## Coordination of Ocean Management: A Perspective on the Gulf of Maine

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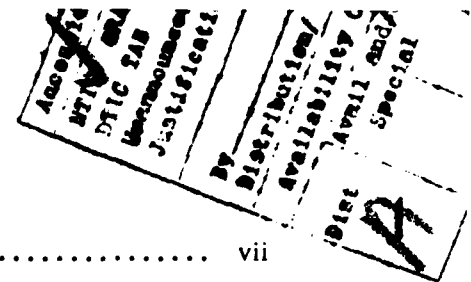
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<p>16. Abstract</p> <p>This study proposes a plan for the coordination of governmental ocean management initiatives for the Gulf of Maine region. The proposed plan has been constructed in light of the changing ocean jurisdiction framework brought about by the Third U.N. Law of the Sea Conference and the continuing realignment of Federal-State relationships. The objective of this planning effort was to design an efficient procedure for coordinating existing and future ocean uses and management programs, while simultaneously minimizing economic and political costs.</p> <p>Current and future marine uses of the Gulf of Maine are examined and described in the study. The plan proposes establishment of a Federal level Marine Affairs Council, within the Executive Office of the President, and formation of a Regional Ocean Management Council for the Gulf of Maine. The Marine Affairs Council would be composed of all relevant Executive branch department/agency heads and, would be chaired by the Vice-President. The Regional Ocean Management Council would be composed of Governors from adjacent States, regional Executive branch administrators, and a Presidential appointee and, would be open to participation from the marine user community. The study recommends that the proposed plan be implemented by legislative initiative or by Executive Order of the President.</p> <p>The roles of the U.S. Coast Guard in the proposed regional and Federal ocean management bodies are discussed in view of the current resource shortages being faced by this marine service agency.</p>			
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Approximate Conversions to Metric Measures			
Symbol	When You Know	Multiply by	To Find
<b>LENGTH</b>			
in	inches	2.5	centimeters
ft	feet	30	centimeters
y	yards	0.9	meters
mi	miles	1.6	kilometers
<b>AREA</b>			
sq in	square inches	6.5	square centimeters
sq ft	square feet	0.09	square meters
sq yd	square yards	0.8	square meters
sq mi	square miles	2.6	square kilometers
acre	acres	0.4	hectares
<b>MASS (weight)</b>			
oz	ounces	28	grams
lb	pounds	0.45	kilograms
short ton	short tons	0.9	tonnes
(2000 lb)			
<b>VOLUME</b>			
cup	cup	0.24	liters
qt	quarts	0.95	liters
gal	gallons	3.8	liters
cu ft	cubic feet	0.03	cubic meters
cu yd	cubic yards	0.76	cubic meters
<b>TEMPERATURE (exact)</b>			
F	Fahrenheit temperature	$\frac{5}{9}$ (after subtracting 32)	Celsius temperature
<b>Approximate Conversions from Metric Measures</b>			
Symbol	When You Know	Multiply by	To Find
<b>LENGTH</b>			
m	meters	0.04	inches
cm	centimeters	0.4	inches
ft	feet	3.3	feet
y	yards	1.1	yards
mi	miles	0.6	miles
<b>AREA</b>			
sq m	square meters	0.16	square inches
sq cm	square centimeters	1.2	square inches
sq ft	square feet	0.9	square meters
sq yd	square yards	1.2	square meters
sq mi	square miles	0.4	square kilometers
acre	acres	2.5	hectares (10,000 m <sup>2</sup> )
<b>MASS (weight)</b>			
g	grams	0.005	ounces
kg	kilograms	2.2	pounds
t	tonnes (1000 kg)	1.1	short tons
<b>VOLUME</b>			
ml	milliliters	0.03	fluid ounces
l	liters	2.1	pints
ml	milliliters	1.06	quarts
l	liters	0.26	gallons
cu ft	cubic feet	35	cubic feet
cu yd	cubic yards	1.3	cubic yards
<b>TEMPERATURE (exact)</b>			
C	Celsius temperature	$\frac{9}{5}$ (then add 32)	Fahrenheit temperature



# METRIC CONVERSION FACTORS



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## TABLE OF ACRONYMS AND ABBREVIATIONS

### Acronym

ABS	-American Bureau of Shipping
ACOE	-Army Corps of Engineers
ASMFC	-Atlantic States Marine Fisheries Commission
CAA	-Clean Atlantic Associates
CAO	-Committee on Atmosphere and Oceans-Executive Office of the President
CEQ	-Council on Environmental Quality
COPRDM	-Committee on Ocean Pollution Research, Development and Monitoring- Executive Office of the President
CRS	-Congressional Research Service
CZMA	-Coastal Zone Management Act
DEIS	-Draft Environmental Impact Statement
DOC	-Department of Commerce
DOI	-Department of the Interior
DOT	-Department of Transportation
EEZ	-Exclusive Economic Zone
ELT	-Enforcement of Laws and Treaties - Coast Guard mission
EPA	-Environmental Protection Agency
FCCSET	-Federal Coordinating Council for Science, Engineering, and Technology- Executive Office of the President
FCZ	-Fishery Conservation Zone
FEIS	-Final Environmental Impact Statement
FMC	-Federal Maritime Commission
FWPCA	-Federal Water Pollution Control Act
FWS	-Fish and Wildlife Service - Department of the Interior
GAO	-General Accounting Office
MPRSA	-Marine Protection, Research, and Sanctuaries Act
MarAd	-Maritime Administration - Department of Transportation
MM&F	-Committee on Merchant Marine & Fisheries - U.S. House of Representatives
MMS	-Minerals Management Service - Department of the Interior
NACOA	-National Advisory Committee on Oceans and Atmosphere
NAE	-National Academy of Engineering - National Research Council
NAS	-National Academy of Science - National Research Council
NEPA	-National Environmental Policy Act
NERFMC	-New England Regional Fishery Management Council
n.m.	-nautical mile
NMFS	-National Marine Fisheries Service - National Oceanic and Atmospheric Administration - Department of Commerce
NMMA	-National Marine Manufacturers Association
NOAA	-National Oceanic and Atmospheric Administration-Department of Commerce
NPS	-National Park Service - Department of the Interior
NSC	-National Security Council
NSF	-National Science Foundation
OCS	-Outer Continental Shelf
OSTP	-Office of Science and Technology Policy - Executive Office of the President
RTWG	-Regional Technical Working Group (DOI)
SAR	-Search and Rescue - Coast Guard mission
UNCLOS III	-Third United Nations Conference on the Law of the Sea
USCG	-United States Coast Guard

## INTRODUCTION

Ocean management has long been practiced in many forms and to varying degrees. Examples of ocean management include adherence to recognized navigation conventions; designation of shipping fairways and traffic separation schemes; OCS leasing programs for offshore oil, gas, and other minerals; designation of ocean dump sites and other restricted zones; and delineation of fisheries conservation zones and controlled fishing areas. These activities have generally taken place without the need for extensive regulation. Where regulation does exist, it usually involves a government authority created to manage either a specific resource or a narrowly defined set of marine activities.

The changing needs and capabilities of society have increased pressure on and competition for the nation's coastal and ocean resources, resulting in a greater intensity in the use of ocean space and resource development. As the demand for marine resources intensifies, the need for overall coordination and comprehensive management efforts is being recognized. Few marine users would argue against establishing a framework for promoting coordinated, efficient development of marine resources, while allowing for prudent environmental stewardship of the nation's coastal lands, waters, and ocean frontier. However, as the maxim goes, "everyone ultimately acts in his/her best interest." This is abundantly clear in the fields of planning and management.

The ocean management system that has evolved in the United States to date cannot meet the social, economic, political, and technological changes likely to develop in the remainder of this century and beyond. Marine users need a forum that resolves conflicts and safeguards their interests and those of the nation as a whole without resorting to costly litigation and time-consuming appeals to successively higher courts.

The purpose of this study is to develop a practical ocean management strategy, focusing on the Gulf of Maine Region, for the next 25 years. The management framework is a prototype designed for potential implementation within a broad regional and/or national context. The framework provides a



coherent structure and overall coordinating mechanism for marine activities in the region.

The approach to the study follows four basic steps in the planning process: identification of goals, analysis of the problem, evaluation of alternatives and formulation of recommendations, and plan implementation procedures. An additional step in the study evaluates the role of the U.S. Coast Guard in the ocean management process.

Chapter One is an overview of major international and domestic developments that are emerging to form a rational framework for the conduct of future ocean policy. The recently concluded Third United Nations Conference on Law of the Sea Convention contains territorial sea and exclusive economic zone provisions that, if adopted, would provide a recognized jurisdictional framework for managing ocean resources. Within the United States, an evolving realignment of Federal/State relationships is influencing lines of authority and responsibility for a broad range of concerns, including coastal and marine resources.

Chapter Two outlines the rationale for developing a comprehensive approach to ocean management and identifies the goals to be reached. Comprehensive ocean management requires a change from the status quo. This chapter identifies the reasons for change, the objectives to be achieved by change, and the benefits to be gained from adoption of a comprehensive approach to ocean management.

Chapter Three focuses on the Gulf of Maine Region and an analysis of the ocean users community. Like Chapter One, the discussion is an analysis of the problem, but from the detailed perspective of a single region. It examines current and potential future ocean uses and users, to identify user needs and potential conflicts.

Chapter Four presents a detailed analysis of the regional approach to ocean management. The planning process is discussed in light of options and alternatives. Based on the analysis, the study recommends establishing a national Marine Affairs Council and a Gulf of Maine Regional Ocean

Management Council. Two councils would coordinate and plan national and regional ocean management objectives and facilitate agency interaction in the conduct of ocean policy.

An implementation strategy and review procedure to monitor the plan's effectiveness are discussed in Chapter 5. Options for implementing the ocean management process include legislative action or executive decision by the President.

The principal objective of the study is an assessment of the degree of U.S. Coast Guard involvement in ocean management over the period projected in the study. Chapter 6 evaluates the Coast Guard's principal authorities and responsibilities in light of its current and future ability to meet these objectives. The chapter concludes by identifying specific future roles of the Coast Guard in the Gulf of Maine regional ocean management process.

## **CHAPTER 1**

### **OCEAN MANAGEMENT AS A CONCEPT**

Ocean management involves two distinct concepts: ocean and management. The ocean consists of a physical or spatial regime; an existing array of users, activities, programs, and authorities that form the management dimensions; and an existing jurisdictional separation scheme. Management in the ocean context is the process by which the physical ocean, the ocean users community, and the various jurisdictional authorities interact in concert with one another.

#### **The Ocean Domain**

The physical ocean is made up of four components: the surface waters, the water column, the seabed, and the submerged lands.

The ocean's "management" dimensions include the physical or natural system, a constituency of users and a range of user activities, and the existing array of policies, programs, and statutory authorities governing marine affairs. The physical or natural system involves the ocean as space or as a physical medium, and also involves the resources potential of the ocean -- for example, fish, minerals, currents, tides, and thermal gradients.

The constituency of users may include Federal, State and local governments, business and industry, research and academic institutions, and individuals, acting as managers, users, exploiters, consumers, or researchers. Governments are principal ocean users. For the Federal government the ocean serves as a staging area for naval defense and national security operations and training, a conservation arena and frontier for wildlife preservation and endangered species protection, a transportation medium for commercial and military shipping, a laboratory for government sponsored oceanographic research, and an important source of revenue from offshore minerals development.

State and local governments, while less directly concerned with national defense and other international implications of the ocean, have more parochial

concerns, and also view the ocean as a valuable resource. The ocean is without exception an important component of coastal States' economies. Economic considerations range from commercial port operations and fisheries to naval bases, shipbuilding, and commercial recreation, from offshore mineral revenues (in waters under State jurisdiction) to user fees from recreational boaters and anglers. State and local governments are also an important component in efforts toward natural wildlife and species preservation.

The interests of business and industry focus on offshore oil and gas operations, commercial shipping, pipeline placement and operation, shipbuilding and repair, commercial fisheries, and commercial recreation, though this list is neither exhaustive nor representative of all regions.

Research and academic institutions use the ocean principally as a laboratory. Such institutions as Woods Hole Oceanographic Institution and the University of Rhode Island carry on active programs of research and scientific investigation.

Lastly, the ocean user constituency consists of individuals, who occupy a principal niche as both ocean users and consumers. As users their interests are in recreational fishing and boating and shoreline recreation. As consumers they rely on living resources for food and energy resources and raw minerals for material well-being.

The concept of the ocean as a domain is incomplete without a consideration of the framework of existing policies, laws, agencies, and governing authorities which allow the user community to interact with and use the physical ocean system. A framework of piecemeal mechanisms has evolved to accommodate the needs of the ocean users community in its day-to-day interaction with the physical ocean, but that framework falls short in its efforts to guide and coordinate the activities of ocean users. Much of the remaining effort in this study is directed toward a thorough investigation of the management dimensions of the ocean environment and identification of a streamlined framework for guiding, directing, and coordinating the diversity of ocean uses and users.

A third component of the conceptual definition of the term "ocean" is related to the conventional jurisdictional zones that form the basis for ocean management patterns. This study identifies five major jurisdictional zones:

- o Territorial Sea;
- o Contiguous Zone;
- o Fishery Conservation Zone;
- o Exclusive Economic Zone; and
- o International Ocean Zone.

An additional jurisdictional zone is the Outer Continental Shelf, which may overlap or encompass several of the abovementioned zones, but its geographic extent varies with physical characteristics and its jurisdiction is resource-specific. This study focuses primarily upon the territorial sea, the contiguous zone, the fishery conservation zone and the exclusive economic zone.

The territorial sea is the portion of ocean space over which the United States exerts full sovereignty. The U. S. currently claims a territorial sea of three nautical miles. Each of the several coastal States exercises undisputed jurisdiction over most activities in, and resources of, the territorial sea.

The contiguous zone extends seaward for nine nautical miles from the outer edge of the territorial sea. Together with the territorial sea, the contiguous zone forms a seaward boundary extending 12 miles from land. The contiguous zone is a formal, internationally recognized jurisdictional area in which a coastal nation is perceived to have many interests and some degree of management authority, but not total sovereignty or jurisdiction. In the contiguous zone the United States exerts jurisdiction for fiscal, customs, immigration, and sanitation matters only.

The 200-mile fishery conservation zone (FCZ) was established under the Fishery Conservation and Management Act of 1976 (FCMA). The FCZ extended U.S. management authority over most marine fisheries, except for some species of highly migratory fish. It represents a further extension of partial management authority. The establishment of such limited authority may be the

forerunner to a claim over a 200-mile exclusive economic zone (EEZ) currently being discussed among policy experts.

Similar in geographic extent to the 200-mile FCZ is the Outer Continental Shelf (OCS). The OCS generally extends seaward to where the water depth reaches 200 meters; however, the continental shelf is a physical feature, and its actual width varies from place to place along the continent's perimeter. The OCS is important to this discussion because it is an area in which the United States claims full authority to manage and promote development of the resources of the submerged lands contained therein. The United States claims less than complete authority over the waters and resources above the OCS. A further discussion of the Outer Continental Shelf takes place in Chapter 3.

The recently concluded Third United Nations Conference on the Law of the Sea (UNCLOS III) Convention provides for the establishment of exclusive economic zones by coastal States. The EEZ's could extend seaward up to 200 miles from the coast. Within these EEZ's coastal nations would have certain sovereign rights over economic exploration and exploitation of living and non-living resources of the seabed, subsoil, and superjacent waters.

Beyond the scope of this study, both conceptually and geographically, is the portion of ocean space known generally as international waters, which lie seaward of the continental shelf, or beyond 200 nautical miles. Coastal States do not claim jurisdiction over these waters. Use of international waters is governed by agreements between and among nations, and by international convention.

### **Ocean Management**

The concept of management has been treated only peripherally to this point. Management, as used in this study, is a process for coordinating ocean resources, users, and activities within an efficient and predictable framework. It should neither advocate nor discourage activities, conditions, or actions, but rather provide a mechanism for facilitating the achievement of objectives of the participants. Ideally the management system operates with a minimum of

intervention in the marine affairs process, but it should have the capability to intervene if necessary. Flexibility and responsiveness to the need for intervention are important management tools.

Management intervention can take many forms. The choice of functional mechanisms for achieving a desired objective may be related to the level or type of intervention desired. The range of ocean related management functions currently used includes the following (2):

- o research;
- o information collection, storage, and distribution;
- o financial assistance;
- o revenue collection;
- o monitoring;
- o enforcement;
- o conflict resolution;
- o policy setting;
- o regulation (including permitting, zoning, and licensing); and
- o standard setting.

The scope of the concept of ocean management is currently under investigation and is yet to be completely defined. Its future domestic form will evolve from today's thinking and will be the culmination of U. S. efforts toward ocean management since those efforts began. The development of a future ocean management system is certain to focus on a coherent and coordinated approach to national ocean policies and marine resource allocation.

### **International Efforts Toward Ocean Management**

Efforts toward ocean management are a continuing feature of agreements and conventions among the world's nations. Although numerous multilateral agreements have been made, and additional proposals are under discussion, none bears more directly on this study than the ongoing debate known as the United Nations Conference on Law of the Sea (UNCLOS).

The Third United Nations Conference on Law of the Sea (UNCLOS III), which opened in Caracas, Venezuela, in 1974, had its origins as early as 1937. Following the Truman Proclamation of 1945, a series of extended jurisdictional claims by coastal nations precipitated the need for an international conference to address what was subsequently dubbed "creeping jurisdiction."

In 1958 the Geneva Conference on Law of the Sea convened. It led to the adoption of four Conventions regarding ocean use and national jurisdictional extensions: the Convention on the Territorial Sea and the Contiguous Zone, the Convention on the High Seas, the Convention on Fishing and Conservation of the Living Resources of the High Seas, and the Convention on the Continental Shelf. Acceptance of these Conventions, although not universal, demonstrated that some international consensus concerning ocean management existed. Furthermore, the Conventions were patterned after the system developed by the United States for the use of ocean space and resources adjacent to its shores.

The 1958 Geneva Conference adjourned without reaching agreement on important ocean matters. It failed to achieve agreement on exclusive coastal State jurisdiction over fisheries, establishment of an outer boundary of the continental shelf, and a geographic limit for the territorial sea. The Conference achieved consensus on a few issues through compromise, but the degree of consensus was not high enough to sustain the compromises that were reached. During the 1960's and early 1970's many new nation States emerged, diluting the fragile consensus that had been achieved.

During the 1960's, nations began one by one to exert greater control over ocean space and resources. This resulted in the erosion of the provisions of the Geneva Conventions pertaining to living resources. At the same time, ocean use was intensifying. A Second Law of the Sea Conference, convened in 1960, also failed to reach agreement on substantive issues.

Unilateral actions by coastal nations continued as development of new technologies allowed increased exploitation of the resources of the continental shelf, continental margin, and deep ocean seabed. These actions led to numerous unilateral claims of sovereignty and control over more resources and ever expanding areas of the oceans. Based on this trend toward unilateral claims,



which lasted through the early 1970's, a consensus emerged for the convening of a Third United Nations Conference on Law of the Sea.

UNCLOS III recently completed its eleventh and final negotiating session, producing a document that is the cumulative result of its many negotiating sessions. The Convention of the Law of the Sea will be open for participating and agreeing nations to sign in December 1982.

While the Convention contains many far-reaching articles, two provisions of the agreement are likely to bear heavily on the formulation and implementation of ocean management strategies for coastal nations in the future. Part II, Article 3 of the Convention provides for the right of coastal nations to establish territorial seas to a breadth not to exceed 12 nautical miles, measured from baselines determined in accordance with the Convention. Part V of the Convention provides for the right of coastal States to establish exclusive economic zones not to extend beyond 200-nautical miles from those same baselines. The territorial sea provisions would grant total sovereignty; the exclusive economic zone would convey economic rights to living and non-living resources.

For purposes of this study these two provisions, along with the emerging "New Federalism" in the United States, are key concepts. They form the administrative framework for the sea use management implementation scheme developed in this study.

The territorial sea and exclusive economic zone provisions of the UNCLOS III Convention form a geographic framework and define a set of jurisdictional authorities and limits that are likely to govern marine policies and objectives for all nations for the foreseeable future. The provisions of the Convention are likely to prevail within the international community for all nations, coastal or landlocked, whether they sign the UNCLOS III Convention or not. Resolution of these issues and others is the culmination of years of international negotiation and legal uncertainty.

International acceptance of the UNCLOS III Convention should also stabilize the movement by coastal nations in recent decades, toward "ocean enclosure". This is the process whereby coastal nations incrementally extend their seaward boundaries and degree of authority and control over the resources of the continental margin. The movement has resulted in an emerging global pattern of creeping jurisdiction.

The "New Federalism" movement in the U.S. continues a trend toward the realignment of Federal-State relationships. Although its success and degree of implementation remains in question, any study involving the interface between State and Federal interests--as this study does--must be analyzed in light of these changing patterns of authority and jurisdiction.

### **The 12 Nautical Mile Territorial Sea**

From the times of the Seventeenth and Eighteenth Century Dutch jurists Grotius and Bynkershock it has been generally accepted that a coastal nation's sovereignty extends beyond its shores to a belt of marginal waters known as the territorial sea. The exact limit to the territorial sea claimed by coastal nations has not enjoyed such widespread recognition. Despite numerous international conferences intended to settle the discrepancies in the breadth of claims to a territorial sea, among other related marine matters, there is still no international declaratory rule governing such extensions of national sovereignty into the sea. Provisions for such a rule however, are contained in the draft UNCLOS III treaty. Among other provisions, this treaty provides for a maximum extension of the territorial sea to 12 nautical miles (n.m.).

### **Historical Development**

While the extent of the territorial sea has never enjoyed international consensus, the prevailing claim prior to World War II was three n.m., traditionally called the "cannon-shot" rule. Bynkershock's early Eighteenth Century writings gave validity to the belief that a coastal nation was entitled to a belt of waters adjacent to its shores that could be defended from land. In the Eighteenth Century the range of a cannon approximated three n.m., or a marine

league, and this was adopted by many publicists and nations as the limit of national sovereignty in the sea (26).

Though the three n.m. territorial sea achieved consensus among some maritime nations, it was not the universal limit prior to World War II. Another standard of measurement was the line of sight rule, or the distance one could see from land, which produced a wide variety of claims (4).

In the United States, early adoption of the three n.m. rule is often traced to correspondence between then-Secretary of State Thomas Jefferson and the French and British ministers concerning the establishment of a "neutrality zone" adjacent to U.S. shores. Jefferson tentatively established this zone as extending one marine league from U.S. coasts. Shortly after his note was sent to the British and French ministers, the U.S. Congress officially recognized the breadth of the "neutrality zone" as a marine league (17). It should be noted, however, that this zone did not establish a territorial sea with all its concomitant rights, but instead established a "neutrality zone" solely for the purposes of national defense and maritime commerce.

The territorial sea of the U.S. was first registered in international affairs in the form of a treaty between the United States and Great Britain following the War of 1812. In order to maximize access to the fisheries off Nova Scotia and Newfoundland, the U.S. sought to limit the breadth of the territorial sea to three n.m. (17).

Prior to and following this treaty, the United States proposed or made jurisdictional claims of disparate breadth for a variety of purposes. Among these disparate claims were (1) a neutrality zone extending to the Gulf Stream, advocated by then-President Jefferson; (2) customs jurisdiction to four marine leagues, adopted by Congressional action in 1799 and extended to 62 miles in 1935; (3) enforcement of Prohibition legislation to four marine leagues in 1922; (4) a distance of one hour's travel from the U.S. coast, as established by the "Liquor Treaty" of 1924 between the U.S. and Great Britain, to constrain smuggling during Prohibition; (5) a security zone reaching several hundred miles from the shores of the American Republics at the beginning of World War II; and

(6) air defense identification zones, after World War II, which required notification within two hours cruising distance of U.S. shores (4).

While U.S. claims to special purpose zones of jurisdiction have had a varied history, offshore territorial sovereignty has been held to three n.m. Because of the varied claims of other coastal nations, however, the U.S. has participated in numerous international conferences with a view to establishing a universal limit for territorial sea claims.

One of the earliest international efforts to establish such a limit was the Conference for the Codification of International Law, sponsored by the League of Nations in 1930. In response to queries by the Preparatory Committee, coastal nations promulgated their views on the territorial sea. The United States held that the only limit achieving anything close to consensus was three n.m. (37). The responses of other coastal nations varied, and the 1930 Conference resulted in no universal limit.

Shortly after its establishment, in 1945, the United Nations requested that its legal arm, the International Law Commission, begin an extensive review of sea law, in particular the limits of the territorial sea and jurisdictional regimes for marine resources. The Commission's final report, released in 1956, gave rise to a United Nations conference that attempted to standardize international sea law.

This First United Nations Conference on the Law of the Sea (UNCLOS I) was convened in 1958 at Geneva, Switzerland. It met with some success, producing four Conventions dealing with the continental shelf, the territorial sea and the contiguous zone, the high seas, and fisheries and other living resources of the high seas. It was, however, unable to settle the issue of limits to the territorial sea. While these Conventions have gained some juridical standing, particularly before the International Court of Justice, they have been widely derided for their lack of clarity on limits to the territorial sea and continental shelf (24).

In 1960 the United Nations convened the Second Conference on the Law of the Sea (UNCLOS II) to again address the issues of limits to the territorial sea and continental shelf. This Conference met with less success than its predecessor, and subsequently the Conventions created by UNCLOS I went into effect in 1964. They remain the primary international treaties governing the law of the sea (24).

The 1958 Geneva Conventions did not put a stop to the process of creeping jurisdiction, and claims to ocean space have since proliferated. Loopholes in these Conventions in essence opened the door for the continued seaward creep of jurisdiction, and new and broader claims established the threat of restriction of commercial and military ocean vessel movement through vital straits around the world. Additionally, technological advances made it clear that resource exploitation would become increasingly feasible even at distances far from coastal areas.

Following UNCLOS II, the United Nations maintained a Seabeds Committee to examine these disputed issues. In recognition of numerous proposals to extend the limit to the territorial sea, President Nixon issued a "Statement About United States Ocean Policy" on May 23, 1970, in which he proposed adoption of a coupled agreement on the 12 n.m. territorial sea limit and provisions for free transit through and over international straits. President Nixon referred these proposals to the U.N. Seabeds Committee and urged resolution of these and other marine issues via a new law of the sea treaty (32).

President Nixon's 1970 Ocean Policy Statements received the endorsement of the U.S. House of Representatives in Resolution 330, on April 2, 1973 (39). This resolution also embraced the 12 n.m. territorial sea limit. The U.S. Senate passed Resolution 82 on July 9, 1973, for similar purposes (39).

Although the U.S. had, through its President and Congress, endorsed the concept of a 12 n.m. territorial sea, its adoption was contingent on a transit passage regime. Until such time as an international treaty governing the law of the sea was adopted, including these provisions, the U.S. maintained its opposition to any limit for the territorial sea beyond three n.m. For example,

the U.S. in 1973 diplomatically objected to Mauritania's 1972 claim to a 30 n.m. territorial sea (39).

The Third United Nations Conference on the Law of the Sea was convened in December of 1973 in Caracas, Venezuela. In the nine years since, the delegates to the world's largest international treaty-making effort have failed to reach a consensus on the entire draft treaty. While a consensus has been achieved on a majority of the provisions of the draft treaty, those dealing with exploitation of the mineral resources of the seabed beyond the bounds of national jurisdiction have proven difficult to resolve.

The U.S. has contributed greatly to the existing UNCLOS III draft treaty, beginning with President Nixon and continuing through the Ford and Carter Administrations. When the Reagan Administration assumed office in 1981, it summarily dismissed the U.S. senior representatives to UNCLOS and began a major review of what was then the negotiating text of UNCLOS III. The new U.S. representatives began active participation in the UNCLOS deliberations in early 1982, armed with a list of concessions that the Reagan Administration deemed necessary for further U.S. participation. Following several months of negotiations the U. S. delegation forced a vote on the draft treaty, which was subsequently adopted by a vote of 130 yeas, 17 abstentions, and four nays. The United States was joined by Israel, Turkey, and Venezuela in voting against the treaty.

When the UNCLOS III treaty is opened for signature in December, 1982, it is uncertain which nations will sign the treaty. It does appear certain, however, that the U.S. will not be among them. On July 9, 1982, President Reagan announced that the U.S. would not sign the treaty because of objections to provisions for deep seabed mining and future amendments to the treaty which could be ratified without U.S. approval (3). In lieu of U.S. ratification of the UNCLOS III treaty, several options for domestic implementation of select provisions remain. They will be reviewed in the following section on the current status of the 12 n.m. territorial sea.

### Current Status

A recent U.S. Department of State official report lists the total number of nations claiming a 12 n.m. territorial sea at 80, while 22 nations claim three n.m. Thirty-four other coastal nations lay claim to a territorial sea breadth of other than 12 n.m. or three n.m. (54).

Given the numerous attempts to define a universal limit to territorial sea breadth, the question remains: what standing does the 12 n.m. territorial sea command in international law? A now-famous quotation from the Anglo-Norwegian Fisheries Case, tried before the International Court of Justice, states:

"The delimitation of sea areas has always an international aspect; it cannot be dependent merely upon the will of the coastal State as expressed in its municipal law. Although it is true that the act of delimitation is necessarily a unilateral act, because only the coastal State is competent to undertake it, the validity of the delimitation with regard to other States depends upon international law." (23).

Depending to some degree on the final outcome of the treaty-making efforts at UNCLOS III, any claim to ocean space will be justified on the basis of either declaratory or customary international law. Should the UNCLOS III treaty enter into force, particularly with ratification by a majority of participating coastal nations, the provisions of the treaty authorizing claims to a territorial sea up to a maximum breadth of 12 n.m. will be justified on the basis of declaratory international law. Because this treaty would only be binding on those nations ratifying it, its weight would depend on the total number of such nations. The territorial sea provisions of the UNCLOS III Convention are provided within this report as a section of Appendix A.

Those coastal nations not ratifying an UNCLOS III treaty because of objections to a portion of the treaty "package" would still not be constrained from adopting a claim to ocean space, which is regarded as legitimate under customary international law. That law is the body of generally accepted rules

which governs the international actions of each sovereign nation. The existence of a rule of customary international law is evidenced by the practices of members of the community of nations that are complied with by fellow members. Bernardo Zuleta, Under Secretary General of the United Nations, recently noted that the incorporation into customary law of ocean space claims and activities has been accelerated by the UNCLOS III negotiations, and many of the provisions of the adopted treaty have been commonly accepted as bounds to international behavior. Ambassador Zuleta also noted, however, that the entry into force of the UNCLOS III treaty will replace the historical reliance of coastal nations on customary ocean law to justify their claims and actions on or in ocean space (72).

Given President Reagan's position on further participation in or signing of the current adopted treaty of UNCLOS III, it is clear that any near-term justification for a U.S. claim to a 12 n.m. territorial sea would be internationally based on customary law. This would not, of course, prevent future U.S. adoption and ratification of the UNCLOS III treaty.

Based on acquiescence to international practice or upon domestic pressures, there is a possibility that the U.S. will adopt a 12 n.m. territorial sea within the next 25 years. The two options available to the U.S. for adoption of a 12 n.m. territorial sea are ratification of the treaty or unilateral assertion of this limit. Either would require legislation for incorporation into domestic law.

The treaty adoption and ratification option has been discussed above. Legislation to unilaterally assert the 12 n.m. territorial sea does have some precedent in the U.S. On March 6, 1975, Congressman Eilberg introduced just such a bill, H.R. 4374, into the 94th Congress. Though no hearings were scheduled by the three Committees to which the bill was referred, solicitations for views were made to the Executive branch agencies. The agencies, in responses coordinated by the President's Office of Management and Budget, were uniformly opposed to the bill.

It is pure conjecture to try to guess the Administration's current view with regard to U.S. adoption of a 12 n.m. territorial sea. It might be safe to assume,



however, that until the controversy surrounding the UNCLOS III treaty subsides and it becomes obvious who will and will not sign the treaty and until the provisions focusing on transit passage through international straits are satisfactorily implemented, the official U.S. Administration position will not favor the concept of extending our territorial sea.

This position does not preclude Congressional enactment of legislation with the same purpose as Congressman Eilberg's H.R. 4374. U.S. adoption of the 12 n.m. territorial sea would have several profound impacts.

#### Domestic Impact

Should the United States adopt a 12 n.m. territorial sea, either under the auspices of the UNCLOS III treaty or unilaterally, there would undoubtedly be domestic repercussions. Primary among them would be the resultant shift and reordering of Federal/State rights and duties.

As detailed in a later section of this chapter, a long history of disputes exists between coastal States and the Federal government over ownership of the submerged lands adjacent to the U.S. shores. Following Congressional enactment of the Submerged Lands Act of 1953, however, coastal State jurisdiction in the U.S. was judicially established as extending three n.m. from the low-water shoreline - except in Texas and Florida, which in the Gulf of Mexico were granted three marine leagues. These judicial decisions were consonant with the official U.S. position regarding seaward limits to national sovereignty (40). Congressional enactment of the Submerged Lands Act reflected recognition that coastal States did have legitimate interests beyond their shorelines. The arbitrary three n.m. limit to State grants of submerged lands corresponded to the extant claim of national sovereignty in the ocean. The controversy surrounding Federal versus State seabed ownership has been extremely heated and has spanned more than 30 years.

With U.S. adoption of a 12 n.m. territorial sea, the ownership rights to the seabed within that limit, may again become the subject of controversy between

the Federal and State governments. Basically, the question becomes: which will gain jurisdiction over the area within an extended territorial sea?

Two other potential impacts of U.S. adoption of a 12 n.m. territorial sea are the distribution of revenues from resource exploitation of the territorial sea, and legal and management problems (4). The distribution of revenues to the States from resource development on land subject to Federal jurisdiction is sure to become an issue with or without an expanded territorial sea, because of fiscal burden shifts resulting from the "New Federalism." The increasing development of marine resources will only accentuate this issue. The remaining adjunct to the jurisdiction question is that of legal and managerial problems associated with an extended territorial sea. Such an extension will create additional regulatory and enforcement burdens, as well as revenue benefits derived from taxation, for whichever governmental level gains jurisdiction.

Proposals made in Chapter 4 of this report may obviate some of the intergovernmental problems that extension of U.S. sovereignty over the seabed could create. These proposals take into account the interests of both the Federal and State governments in each other's zones of jurisdiction.

#### **The 200-Mile Exclusive Economic Zone (EEZ)**

The 200-mile exclusive economic zone (EEZ) is a concept certain to influence the development of United States and international ocean management strategies in the future. As one component of an emerging international consensus focusing on jurisdictional authority over the oceans and their resources, the EEZ is complemented by the 12-mile territorial sea. The 12-mile territorial sea is a geographic extension of the traditional three-mile territorial sea over which coastal States exercise sovereignty. Together, the 12-mile territorial sea and the EEZ are emerging as the recognized spatial framework of coastal nation jurisdictional authority. As such the framework forms the logical spatial basis that will allow and encourage the United States to implement a comprehensive ocean management plan and administer policy regarding coordination and use of ocean resources. See Appendix D, Plate 1 for locations of the 12-mile limit (contiguous zone) and the 200-mile limit (Fishery Conservation Zone) in the Gulf of Maine.

### Origin and Background

Strictly speaking, the Declaration of Panama in 1939 may be regarded as the beginning of significant jurisdictional extensions; it set the precedent of using a 200-mile limit. Additional jurisdictional enclosures specifying a 200-mile limit began with Chile's June 23, 1947 claim to a 200-mile zone, when it proclaimed sovereignty over the continental shelf off its coasts and islands and over the seas above the shelf. Chile's claim to 200 miles was modeled after the security zone adopted in the Declaration of Panama. All subsequent claims have been based on the precedent set by the Declaration of Panama. No claims to date by any coastal state have exceeded 200 nautical miles.

The Truman Proclamation of 1945, while not specifying a 200-mile jurisdictional claim, was the first major assertion of rights to resource jurisdiction. It stated that the natural resources of the subsoil and the seabed of the United States continental shelf "appertained" to the U.S. and were subject to its jurisdiction and control. The Proclamation was designed to ensure a stable investment climate for American oil companies anticipating exploring for oil in offshore areas (8).

The precedent created by Truman's action paved the way for similar unilateral claims by other coastal nations. The Geneva Convention on the Continental Shelf sanctioned the Truman Proclamation in 1964. That proclamation had established a pattern which brought about the evolution of the economic zone, or its forerunner, the "patrimonial sea." As noted, Chile proclaimed a 200-mile zone on June 23, 1947; Peru decreed such a zone on August 1, 1947; and Ecuador declared a 200-mile zone in 1951 (20). In 1952 all three nations signed the Declaration of Santiago, proclaiming "as a rule of their international maritime policy" the exclusive sovereignty and jurisdiction of each to 200 miles from their respective coastlines (8). More nations then extended their jurisdictional claims, often citing the Truman Proclamation as precedent.

The economic zone concept was preceded by that of the "patrimonial sea", a term developed in the early 1970's. The patrimonial sea concept was formalized in 1972 in a declaration adopted by the Specialized Conference of the

Caribbean Countries on Problems of the Sea, held in the Dominican Republic. The Santo Domingo Declaration, as it is known, basically provides for:

- o coastal nation sovereignty over natural resources in the waters, the seabed, and in the subsoil in the area adjacent to the territorial sea, called the patrimonial sea;
- o coastal nation duties and rights to regulate scientific research in the patrimonial sea, the right to adopt measures to prevent marine pollution and to ensure sovereignty over the resources of the area;
- o international agreement on the breadth of the patrimonial sea, with the entire zone, including the territorial sea, not to exceed a maximum of 200 nautical miles;
- o delimitation of the zone between two or more nations to be achieved through the peaceful procedures stipulated in the United Nation's Charter; and,
- o freedom of navigation and overflight with no restrictions, except that those resulting from the exercise of the coastal nation's rights within the area should accrue in the zone to the ships and aircraft of all nations, whether coastal or not.

The Declaration of Santo Domingo set out the concept of an economic zone of exclusive coastal nation jurisdiction for the first time (8).

The concept of an economic zone was simultaneously being articulated elsewhere. In Africa, a group of experts met in Yaounde, Cameroon and produced proposals endorsing an economic zone. In August, 1972, Kenya introduced the proposals as a series of draft articles to the Preparatory Committee for UNCLOS III. Based on the many unilateral claims with varying degrees of comprehensiveness, and the gathering momentum and support of the emerging concept of an economic zone, there was a growing need for international agreement to stem the rush of claims extending territorial jurisdiction, many of which consisted of total sovereignty. As a result, deliberations on the concept of an economic zone of exclusive coastal nation jurisdiction have, in some form, been a fundamental component of UNCLOS III ever since.

The term "economic zone" gave way to "exclusive economic zone." It still refers to the 188-mile belt of water adjacent to the territorial sea. The addition of the word "exclusive" is a point of much contention in the efforts to reach an international agreement, as it is a term whose nuances have yet to be decided.

The exclusive economic zone debates in UNCLOS III have been an exercise in reconciling the disparate views and positions of the conference's participants, who have polarized views as a result of the many unilateral claims of jurisdictional extension in recent decades. Coastal nations having existing declarations of extended jurisdiction as far seaward as 200 n.m., whether limited or absolute, attended the Conference and sought to justify their prior claims. These included Chile, Peru, and Ecuador. On the other hand, the major maritime nations, such as the United States and England, have traditionally claimed narrow limits of national jurisdiction in order to maintain naval mobility and preserve flexible use options. The U.S. in particular has relied on single-purpose jurisdictional measures to protect its interests. Out of this conflict the exclusive economic zone has emerged as the focus for negotiating a compromise of these divergent views.

There is broad support among UNCLOS III participants for giving all nations specific rights within the exclusive economic zones of coastal nations including freedom of navigation, overflight, the laying of cables and pipelines, and rights related to navigation and communication. These same participants would allow all other rights to accrue to the coastal nation. The United States, among other maritime nations, has vigorously opposed these proposals, supporting the principle that the seas of the exclusive economic zone should retain their status as high seas except for those rights specifically granted to the coastal nation by the articles of the Convention. This position is more restrictive, as only those rights specifically granted by the articles of the Convention would accrue to the coastal nation. This restrictive approach would limit attempts to further enclose ocean resources. Language contained in the recently concluded UNCLOS III Convention follows the U.S. approach by narrowly defining the rights of the coastal nations and retaining the high seas character of the EEZ.

Within the exclusive economic zone, as provided in the Convention, the coastal nation would have specific rights in the area beyond and adjacent to the territorial sea, but not beyond 200 n.m. from the baselines from which the breadth of the territorial sea is measured. These include sovereign rights of exploring, exploiting, conserving and managing living and non-living natural resources of the seabed, subsoil, and superjacent waters, and of other activities for the economic exploitation and exploration of the zone, such as the production of energy from the water, currents, and winds. The agreement would allow jurisdiction over the establishment and use of artificial islands, installations and structures; marine scientific research; the protection and preservation of the marine environment; and any other rights and duties provided for in the Convention. It also provides for specific rights regarding the continental shelf and responsibilities regarding the rights of other nations.

The rights of all other nations in the exclusive economic zone are virtually those of freedom of the high seas, and include freedom of navigation and overflight, freedom to lay submarine cables and pipelines, and freedom to construct artificial islands and other installations permitted under international law. These latter two are subject to the provisions governing activities on the continental shelf. Freedom of fishing is subject to coastal nations' rights to conserve and manage the living resources of the high seas. Freedom of scientific research is ensured subject to coastal nations' rights to limit activities on the continental shelf and other provisions concerning marine scientific research. All nations would have freedom of the high seas providing that due regard for the interests of other nations and due regard for the rights of coastal nations in the exclusive economic zone are also exercised.

The exclusive economic zone has both a geographic and jurisdictional relationship somewhere between that of the territorial sea and the high seas. Geographically, it forms the area that lies seaward of the territorial sea and landward of the high seas, but not beyond 200 miles from the baseline from which the territorial sea is measured. The major exceptions to the EEZ's 200-mile extent occur where boundary situations with opposite or adjacent nations prevent extension of jurisdiction of the EEZ (or fisheries conservation zone) to a full 200 n.m. The spatial character of the EEZ thus renders the zone useful for establishing a management framework for ocean resources.

As a jurisdictional entity, the EEZ is a zone where a coastal nation's authority is considerable, but falls far short of outright sovereignty. Total national sovereignty extends only to the limit of the territorial sea. Beyond the EEZ (greater than 200 miles) there is no coastal nation sovereignty or maritime jurisdiction.

Establishment of exclusive economic zones would diminish the trend toward "creeping jurisdiction" and establish a balance between the rights of coastal nations and the freedom of the high seas accorded to other nations. The degree to which the EEZ can be considered a part of the high seas is mainly a matter of terminology. The traditional principles of international law, which apply in all areas of the high seas, protect the interests of the world community for free navigation within the EEZ and prevent the encroachment upon that freedom by the exercise of coastal powers going beyond what is provided for in the UNCLOS III Convention.

UNCLOS III notwithstanding, those nations that choose not to sign the Convention will continue to abide by the provisions of their own unilateral declarations regarding the EEZ.

Beside the specific EEZ claims provided for in the UNCLOS Convention, national maritime claims fall into three general categories: territorial sea claims, fishing limit claims, and simple economic zone claims. Territorial sea and fishing limit claims range from a breadth of three nautical miles to up to 200 nautical miles. Territorial sea claims of up to 200 nautical miles have been made by 14 coastal nations; fishing limit claims of 200 miles have been declared by 90 coastal nations. Those nations claiming territorial seas of 200 nautical miles are either in Central and South America or Africa (54).

Fifty-four coastal nations presently claim some type of economic zone (54). Economic zone claims by all coastal nations making such claims are for 200-mile jurisdictions; not a single nation has claimed extended jurisdiction of any kind that exceeds 200 miles. There is no precedence for claims greater than 200 miles, thereby giving credence to this limit to the EEZ as a rule of customary international law.

The EEZ is a hybrid zone. It is not a zone of the high seas nor a part of the territorial sea. The point of departure is that the EEZ is a creation sui generis (16). Other types of territorial claims have paralleled the unilateral declarations of extended territorial seas and exclusive economic zones. In reality, most of the territorial claims of extended jurisdiction are hybrid zones.

For coastal nations claiming a 200-mile exclusive economic zone, the Convention on the Law of the Sea provides the most definitive description of the rights of coastal nations. The pertinent section of the Convention is included in this report as Appendix A.

In 1975, the Congress of the United States passed and the President signed the Fishery Conservation and Management Act of 1976, establishing a fishery conservation and management zone extending seaward to a limit of 200 n. m. Within this zone the U.S. has extensive management and licensing powers. The Act does not approach the authority that would accrue from establishment of an EEZ, but it is consistent with the U. S. tradition of narrow jurisdictional claims and reliance on single-purpose measures to protect its interests.

Other types of jurisdictional claims are common. These include resource zones, which may focus on the assurance of rights to engage in deep seabed mining; contiguous zones; security zones; pollution zones; the continental shelf; and archipelagic and historic claims. Most are single-purpose claims and do not have the customary acceptance that is a characteristic of the territorial sea, the fisheries conservation and management zone, or the exclusive economic zone.

#### Current Status and Future Directions

The recently concluded final session of UNCLOS III is the current focus for international efforts toward achieving universal agreement on the adoption of an exclusive economic zone. The UNCLOS III Convention provides for coastal nations' rights to establish such a zone.

Although the United States has remained a willing participant through all negotiating sessions of UNCLOS III, it currently does not embrace all aspects of



the Convention. However, the United States' overall position on the UNCLOS III provisions for establishment of EEZ's is favorable, and it is likely to establish an exclusive economic zone in the near future whether it signs the UNCLOS III Convention or not. Declaration of such a zone may result from pending Congressional legislation, but implementation of an EEZ by Presidential proclamation or Executive Order is also a possibility. The U.S., of all the world's coastal nations, would have the largest geographical EEZ under the UNCLOS III provisions.

As noted earlier, with the exception of single purpose legislative measures and executive orders, the U.S. has maintained a cautious attitude toward the ocean enclosure movement. This posture is motivated more by the desire to maintain unimpeded mobility for military vessels, and open access for commercial and merchant vessels into potentially enclosed or semi-enclosed seas, than by economic desires. The U.S., however, stands to gain the most economically by the enclosure movement--it would gain 2.2 million square miles, and twice that if the Pacific Trust Territories were found eligible for full EEZ's (15).

The Truman Proclamation is the first example of U. S. use of a single purpose executive order to protect its interests, but it has since been followed by additional measures to control or extend authority over marine resources. Among them are the Outer Continental Shelf Lands Act (1953) and Amendments (1978), the Coastal Zone Management Act (1972), the Marine Protection, Research, and Sanctuaries Act (1972), the Port and Waterways Safety Act (1970), the Clean Water Act (1977), the Deepwater Port Act (1974), and the Fishery Conservation and Management Act (1976). Of all these legislative efforts, only the Fishery Conservation and Management Act establishes a 200-mile seaward geographic jurisdiction.

Against this chronology of efforts to control and extend authority over marine resources without giving up any rights to the international community, the logical next step is for the U.S. to establish an exclusive economic zone. Based on the number of coastal nations that have already established exclusive economic zones and the anticipated ratification of the UNCLOS III Convention,

the U.S. could unilaterally establish such a zone and have it recognized within the international community without formally signing the treaty "package". Such an action would establish a single mechanism providing administrative and geographic jurisdiction over a broad range of marine resources and activities, while preserving military mobility and commercial access. An EEZ would also allow the management of ocean resources and the coordination of marine activities within a single framework.

Congressman John Breaux of Louisiana, is currently considering introducing a bill in Congress which would establish an exclusive economic zone adjacent to the United States. Passage of the legislation is anticipated despite administration refusal to sign the UNCLOS III Convention. The United States has announced specific objections to the UNCLOS III Convention, most focusing on the deep seabed hard mineral mining provisions of the treaty. The treaty, if adopted, would pose the following problem for the U.S.:

- o It would defer deep seabed mining.
- o It would not provide the United States or other nations with a role in seabed decisionmaking that adequately reflects and protects their interest.
- o It would allow amendments to enter into force for the United States without its approval. This is clearly incompatible with the United States approach to such treaties.
- o It would require the mandatory transfer of technology.
- o It opens the possibility to providing funds to national liberation movements.

The exclusive economic zone, either through acceptance as customary law or treaty law, will be the framework for conducting ocean policy among the world's nations in the foreseeable future. The decisions of 54 nations who have already made unilateral declarations of EEZ's lends credence to the concept's acceptance as customary law. Furthermore, the number of nations declaring 200-mile fisheries management zones currently fixes that distance as the upper limit for all types of extensions to maritime jurisdictional authority.

The UNCLOS III Convention will establish the EEZ as an integral part of international law by treaty for those nations signing the document. If the U.S.

were to sign the document at some future time, it would indicate U.S. acceptance of the agreement as treaty (or declaratory) law.

### Impact of Adoption

Adoption of EEZ's by coastal nations will have a number of effects, even though most of the Conventions mandated are already de facto practices within the international community.

Specifically, coastal nations with established EEZ's will have certain rights and responsibilities regarding access and stewardship over marine resources and activities within their respective jurisdictions. The rights that accrue to the coastal nation have already been described. The responsibilities, although less well-defined, are no less important. In addition to explicit responsibilities to control marine pollution and manage living resources, there would be implicit responsibilities to provide overall stewardship and management of all ocean resources within the EEZ. Determination of the seaward limit of the EEZ for coastal nations influences the enclosure of ocean resources. Sovereignty over resource development is a significant economic issue to all nations.

Establishment of EEZ's will force settlement of many boundaries. Those which would be delimited are of three types: lateral seaward boundaries, high seas divisions, and the territorial sea. The U.S. is currently discussing delimitation of lateral seaward boundaries with Canada and Mexico. The U.S.-Canadian boundary through the Gulf of Maine bears directly on this study. Because the boundary between the two countries in the Gulf of Maine will not allow full extension of a 200-n. m. EEZ for either side, conflicts have arisen, principally over fishery resources and potential offshore hydrocarbons, which strain relations between these important trading partners. Early resolution of this and other boundary disputes will benefit both parties.

For the U.S., establishment of an EEZ would further complicate the decision of whether to declare a 12-mile territorial sea, since it would fix the boundary between areas of complete territorial sovereignty and those having a more limited exercise of economic/jurisdictional rights. This problem, in light of Federal-State relationships within the U.S., was discussed earlier in this chapter.

There would be few other specific adverse impacts from the establishment of an EEZ. Deep seabed hard mineral mining operations, for example, are in the early stages of development. Access to those minerals would be virtually guaranteed to the respective coastal nations with established EEZ's. No provisions for revenue sharing with the international community are mandated within the 200-mile EEZ. Beyond the 200-mile limit, a revenue-sharing formula would apply. Although it may be contended that many of the deposits of known minerals lie beyond the 200-mile EEZ's of coastal nations, this industry is in its relative infancy and does not present an immediate concern. Moreover, the revenue sharing provisions of Article 82 of the UNCLOS III Convention are not so burdensome as to threaten the profitability of the developing industry.

Benefits concerning marine pollution can be anticipated. Since coastal nations with EEZ's would bear the responsibility for limiting the level of marine pollution, their attention to this problem is likely to increase.

Anticipated adverse impacts on military operations are not borne out by the UNCLOS III provisions. Freedom on the high seas, including unimpeded military mobility and navigation and overflight rights, is ensured by Article 87 of the Convention.

Universal adoption of EEZ's would have some negative consequences. Economic problems would result from the potentially unequal distribution of access to the world's finite mineral and renewable living resources. Allocation of the resources through EEZ jurisdiction would disproportionately accrue to the major maritime nations. Following behind the United States, the largest EEZ's would be held by Australia, Indonesia, New Zealand, Canada, the Soviet Union, and Japan. Each would have more than one million square miles of area in its EEZ. (15).

The benefits resulting from adoption of EEZ's would be substantial, if less certain than the economic consequences. The principal benefit of universal acceptance, as noted, would be discouragement of the recent trend toward "creeping jurisdiction." EEZ acceptance would encourage stability by establishing a set of recognized rights and authorities within specified

geographic jurisdictions. Acceptance of the EEZ provisions of UNCLOS III would reduce the incentive for coastal nations to extend their jurisdictions to uncustomary limits, by establishing an internationally recognized set of standards and operating criteria. The provisions of UNCLOS III would set forth a code of acceptable international behavior that, if breached, could result in multilateral imposition of unspecified sanctions.

Acceptance of the 200-mile EEZ would provide a framework for implementing plans to coordinate and manage ocean resources. Many management responsibilities would either explicitly or implicitly be assigned to the coastal nations with established EEZ's. The framework would allow other responsible coastal nations to formulate plans and initiate regional management schemes to accommodate the diversity within their marine environments and user communities.

Finally, the establishment of EEZ's by individual coastal nations would provide a standard jurisdictional mechanism for formulating and implementing individual ocean management plans. The formulation of one such management plan is the focus of the following chapters of this study.

### **United States Efforts Toward Ocean Management**

In the United States, specific actions leading toward the establishment of an ocean management framework have been ongoing and have coincided with efforts to establish an ocean management framework in the international forum. The U.S. has been establishing Federal/State marine jurisdictions and developing domestic ocean management initiatives. A series of significant court decisions brought about a settlement of disputed claims between the coastal States and the Federal government. Settlement of those jurisdictional disputes paved the way for passage, at first, of a flurry of single-purpose legislation, which has inadvertently set the stage for establishment of more comprehensive ocean management programs. Between the geographic and jurisdictional provisions emerging from the UNCLOS III discussions, and the developing trend within the U.S. toward a realignment of Federal/State relationships, a basis now exists for the formulation of an innovative ocean management plan.

Early U.S. efforts toward ocean management focused largely on resolving jurisdictional disputes. It was not until publication of a Stratton Commission Report entitled "Our Nation and the Sea," in 1969, that the first high visibility recommendations for defining the marine environment and suggestions for ways to manage it were made. However, the few significant events predating that report are recalled here.

As a major maritime nation, the U. S. has always had a concern for ocean space, resources, and activities. Historically, these concerns resulted in Federal intervention where issues of commerce, navigation and defense required action. Before the late 1930's, except for a three-mile territorial sea for customs and defense, no Federal claims of national authority were made. It was then commonly agreed by the State and Federal governments and affirmed by the courts that the submerged lands and resources were under the jurisdiction and regulation of the coastal States.

During the late 1930's, concern over resources, principally oil, gas, and fish, altered the perception of the responsibility for those resources, and led to the first major public statements regarding United States Federal jurisdiction over ocean space and resources, followed by a formal articulation of Federal and State rights and authorities. From this fundamental change in position came the political and legal contest between the State and Federal governments known as "the tidelands controversy." The contest concerned jurisdiction and authority over ocean resources and submerged lands and continued until 1947, abating during the World War II years.

During the war years major national ocean issues were debated. The outcome of those debates was to have an effect on the development of later ocean management strategies. It was a period that compelled the U.S. to examine the strategic and economic importance of the nation's coastal and marine resources and to establish jurisdiction over them.

In June, 1943 the Departments of Interior and State began the National Marine Resources Policy Study initiated by President Roosevelt. The purpose of the study was to examine the relative roles of the Federal and State

governments in handling domestic territorial sea resources and to explore the possible seaward extension of Federal jurisdiction over ocean waters, submerged lands, and resources. The study group reached an agreement on proposals in March, 1945, and President Roosevelt approved it. Those proposals and that agreement helped to form the basic structure for the U. S. ocean policies and programs to the present. The study was a major milestone and is an important key to understanding the role the Federal government has played regarding ocean activity.

The Departments of State and Interior held differing views on policies regarding management of national marine resources. The Department of the Interior favored a unified ocean management regime within a marine resources management program, while the Department of State opposed such a program, favoring a segmented approach that avoided unilateral extension of national jurisdiction over ocean space and resources. The Departments worked out an agreement that incorporated elements of each philosophy.

According to the agreement, ocean space, for policy and management purposes, was to be split into two management regimes: the submerged lands, and ocean water. The agreement provided that the U.S. would exert authority to manage the submerged lands and resources through a Presidential Proclamation. Ocean waters were to be managed on a resource- or activity-specific basis. In essence, the ocean waters would serve as a medium for a variety of potentially regulated resources and activities, but would retain their character as high seas with no assertion of national ownership.

The principal ocean resources at that time were oil, gas, and fisheries. In creating the management regimes it was agreed that the Department of the Interior would prepare the draft proclamation on the submerged lands regime, including management of its oil and gas resources, while the Department of State would prepare a similar document allowing for management of fisheries.

President Roosevelt approved both proclamations on March 31, 1945. He died on April 12, of that year, but on September 28 President Truman issued Presidential Proclamation No. 2667 on the Continental Shelf and No. 2668 on

Fisheries. Together these constitute a unilateral claim to the resources of the continental shelf and the right to establish a fishery conservation zone in waters above those submerged lands.

Following the protracted efforts leading to the Truman Proclamation came a lengthy series of Supreme Court cases seeking to resolve the issue of Federal and State jurisdiction within the three-mile territorial sea. Known as the Submerged Lands Cases, they involved litigation between the United States and three States (California, Texas, and Louisiana) in separate cases.

In 1947, the Supreme Court ruled in United States v. California that the States did not own the submerged lands of the territorial sea and that the Federal government had paramount rights over these resources. (California was the principal location for offshore oil production at that time.) The Congress, however, supported State control of the submerged lands.

By the late 1940's, the Gulf Coast States of Texas and Louisiana became offshore oil and gas producers. In cases similar to that in California, the Supreme Court again ruled in United States v. Louisiana and United States v. Texas, in a joint decree issued in late 1950, that the Federal government should have physical control of the submerged lands of the territorial sea. Both Texas and Louisiana had sought claims to the submerged lands adjacent to their coasts.

The decisions in these three cases did not resolve the issue, as each stopped short of assigning sovereignty or ownership of the submerged lands and their resources to either the Federal government or the states. By the early 1950's, oil production was down in California and declining in the Gulf of Mexico, and the U.S. was engaged in the Korean conflict. The offshore oil and gas industry was clearly responding to the lack of a firm and predictable set of policies under which it could operate.

Political maneuvering surrounded resolution of the issues until President Eisenhower took office in 1953. News accounts of that time indicate that Adlai Stevenson's opposition to State ownership of offshore lands and resources may have cost him the 1952 Presidential election, especially in oil-producing States like Texas and Louisiana, where the issue was of critical concern.



In 1953, Eisenhower signed The Submerged Lands Act (SLA), the quitclaim legislation that removed any Federal claim to ownership or authority to manage or lease resources or submerged lands within the territorial sea. The legislation assigns clear title to the States. Under the provisions of the Act, however, the Federal government retains authority over commerce, navigation, international agreements, and national defense.

By the fall of 1953, Eisenhower had also signed the Outer Continental Shelf Lands Act (OCSLA). OCSLA legislatively implemented the Truman Proclamation of 1945, and claimed full U.S. control and authority over, and established a framework for leasing and development of, the resources and lands of the Outer Continental Shelf. The U.S. claim over these submerged lands was tantamount to a unilateral extension of national territory into a portion of ocean space that was previously considered as the high seas and subject to the customary law of the international community. OCSLA also put the Federal government in the position of conducting, albeit not comprehensively, a major ocean management effort.

The years between 1954 and the early 1970's were a period of consolidation that included interpreting and testing the constitutional validity of the Submerged Lands Act and the Outer Continental Shelf Lands Act. Claims by individual U.S. States to territorial seas in excess of three nautical miles were made. In the ensuing court decisions only two states were granted greater territorial extensions--Texas and Florida (west coast only), where claims of three marine leagues were upheld because of valid prior historic claims.

Jurisdiction as established under the two Acts remained largely unchanged for 20 years. The United States and other nations' jurisdictional claims precipitated a movement toward international agreement on a regime for the high seas, formally convened by the 1958 Geneva Conference on the Law of the Sea. That Conference gained temporary international acceptance of the national ocean regime that had emerged in the U.S. between 1937 and 1953.

By 1953, the issue of jurisdiction was at least temporarily resolved, and Federal efforts to manage the ocean resources could move forward. Until the

late 1960's, Federal efforts at ocean resource management focused almost exclusively on Outer Continental Shelf oil and gas leasing, and those activities were confined to areas in the Gulf of Mexico and off California.

The 1960's were a period of intensifying ocean use. Exploration for Outer Continental Shelf oil and gas off the U.S. coast, as well as domestic imports of oil by tanker, increased significantly. Modern fishing fleets of other countries were putting pressure on fisheries resources in waters adjacent to the U. S., particularly in the offshore areas of New England. Recreation activity was intensifying in the coastal areas, as was construction of power plants, roads, and dwellings, with their associated impacts, throughout the coastal zone.

The pressure of the intensifying ocean and coastal uses, along with ocean research efforts, led to the publication of several national studies and a growing public concern for Federal management initiatives to deal with these developments. Significant among the studies is the Stratton Commission Report "Our Nation and the Sea: A Plan for National Action." This study and others reported the growing concern over loss of wetlands and estuaries, erosion, overfishing, oil spills, facilities construction in the coastal zone, water quality problems, and intensifying ocean uses.

The Commission on Marine Science Engineering and Resources (The Stratton Commission) made recommendations in its report that later formed some of the provisions of the Coastal Zone Management Act of 1972. As early as 1966, then Vice-President Humphrey proposed the concept of "coastal zone management." The Stratton Commission also recognized that a redistribution of authority between the coastal States and the Federal government would be necessary to allow the States to perform a coordinating role within the waters of the territorial sea. The Commission had suggested forming a comprehensive management regime for the territorial sea and adjacent coastline under State leadership, with a coordinated Federal role to be directed by a single national ocean agency. From these recommendations the Coastal Zone Management Act emerged. It gave the States less of a leadership role than initially envisioned, and no single national ocean agency was created.

The CZMA is an important first step in the development of a U.S. ocean management program. It is designed to encourage State participation in a comprehensive effort toward management of ocean space and resources. State participation in the program is voluntary. The objective is to encourage coastal States to cooperate with Federal and local governments, and the private sector to develop concerted policies, standards, criteria, and processes to deal effectively with land and water use decisions in their coastal zones, including the territorial sea. Further, the States are to consider the regional or national implications of their actions.

The remainder of the 1970's was characterized by enactment of a variety of single purpose laws, each focusing on a separate ocean management program. Each piece of legislation was consistent with the traditional U.S. objective of avoiding the full enclosure of ocean resources while maintaining a conservative posture toward actions that could be interpreted as comprehensive territorial or jurisdictional extensions. The U.S. sought to avoid another precedent such as that set by the Truman Proclamation. It was also thought that the conservative approach to imposing additional jurisdictional authorities would result in an equally cautious approach by other coastal nations.

The principal Federal ocean-related management programs established during the decade of the 1970's focused on deepwater ports, marine sanctuaries, fisheries conservation and management, pollution control, and coastal zone management. The legislation includes:

- o The Coastal Zone Management Act of 1972 (CZMA)
- o The Federal Water Pollution Control Act of 1972 (FWPCA) and amendments
- o The Marine Protection, Research, and Sanctuaries Act of 1972 (MPRSA)
- o The Deepwater Port Act of 1974 (DWPA)
- o The Fishery Conservation and Management Act of 1976 (FCMA)

The 1970's were also a period when existing legislation was amended to accommodate changing needs and address emerging issues. For example, the Outer Continental Shelf Lands Act was amended, in 1978, to ensure that proper

environmental safeguards are maintained and to increase State and public participation in the leasing decision-making process. Based on these efforts at "fine-tuning" of ocean programs and on the numerous recommendations for reorganization outlined in several studies published during the decade, by 1980 the U.S. was poised to reconsider its ocean management strategy and formulate appropriate policy initiatives.

The recommendations of various study panels have in a few cases influenced the current direction of ocean policy and the formulation of management structures. Of the major study panels, the Stratton Commission, and the National Advisory Committee on Oceans and Atmosphere (NACOA), in its third Annual Report, concentrated on ocean programs and reorganization at the Federal level. The Stratton Commission, for example, proposed the creation of an independent ocean agency, the National Oceanic and Atmospheric Agency (NOAA). Although NOAA was formed it was placed in the Department of Commerce and designed predominantly as a research and development-oriented body, with little of the regulatory, management, and enforcement authority envisioned by the Stratton Commission. Many Federal ocean programs enacted during the 1970's were rooted in the recommendations of the Stratton Commission, but they were not centered in the independent ocean agency, as the study group had implied they should be. Many were assigned to the Department of Commerce's NOAA, changing its direction and straining its capabilities.

The NACOA recommended formation of a broadly-based ocean agency, but its degree of independence was not spelled out, since a cabinet-level department for energy and natural resources was under consideration at that time. The NACOA recommendation was for an agency like NOAA, but having expanded responsibilities and functions. Such an agency would have had an organizational structure somewhere between NOAA as it is now constituted and a broad based independent Department of Energy and Natural Resources, advocated by the Ash Council. (The Ash Council, created by President Nixon in 1969, was a one-time advisory council on executive reorganization within the Executive Office of the President.)

Numerous other proposals, policy studies, and advisory groups offered recommendations for reorganization. The proliferation of reorganization schemes is in itself indicative of the need for a comprehensive approach to ocean management that is capable of providing overall coordination. Such a plan should integrate the many pieces of single-purpose legislation and the distinct policies and management initiatives adopted by the U.S. in the past. The plan should also be compatible with the geographic and jurisdictional management framework that has emerged from the recently concluded UNCLOS III negotiations within the international political arena. The probable adoption of a 12-mile territorial sea and a 200-mile exclusive economic zone by the world's coastal nations, as noted earlier, will have important implications for global ocean management intentions.

### **Future Directions**

A major domestic trend that has been developing for many years is the turn away from centralized government, toward a sharing of responsibilities and authorities with the States and regions. A broad realignment of Federal/State relationships is in progress. Although called "the New Federalism" by the Reagan Administration, the trend toward more State participation in matters previously considered to be exclusively Federal concerns predates the current initiatives.

Fiscal austerity within the Federal government is encouraging a shift of program authority to the States, as cuts curtail the ability of Federal regulatory agencies to perform their mandated functions. The U.S. Coast Guard and NOAA are two agencies experiencing this curtailed capability. While the States may be no better prepared to assume the burden of performing these regulatory and oversight functions, the general shift is in their direction. The developing sophistication of most State bureaucracies is a significant factor in allowing this change; yet its success is by no means ensured.

The Reagan Administration's New Federalism initiatives are the most recent manifestation of this movement toward shared responsibilities and authorities. Whether or not the current individual proposals survive the

legislative process, the long-range direction for State and regional participation in matters having trans-boundary implications is likely to continue.

The central theme of the Reagan Federalism proposal is the shift of social, transportation, and community development programs to the States. The shift is scheduled to take place over nearly a decade of phasing-in time.

A similar shift of environmental programs has been initiated. The transfer of programs will dramatically alter the way environmental programs are carried out in the future. Under the plan the States will be required to assume a greater share of the regulatory and enforcement burden, with less Federal funding. Many States already lack the capacity to assume these additional responsibilities. The end result may be lower environmental standards and less rigorous enforcement of regulations, especially when Federal funding ends.

Specific impacts on coastal locations and resources will soon become evident. Under current New Federalism proposals, States will likely respond to coastal issues by setting priorities and allocating scarce resources to solve problems. Most States, already experiencing revenue shortfalls in addition to reductions in federal monies, will have limited options for dealing with increasing fiscal burdens. They may raise taxes, transfer programs to the private sector, or curtail programs to close the gap between revenues and expenditures.

Cuts in several Federal programs will have a significant and direct impact on coastal States and communities. For example, proposed elimination of program management grants to States under the Coastal Zone Management Act will impair planning and regulation of coastal activities. The Coastal Energy Impact Program, which has helped mitigate adverse effects of coastal energy development, particularly from Outer Continental Shelf oil and gas drilling, will be terminated. The Environmental Protection Agency (EPA) is operating with reduced funding and will become considerably less effective. Further reductions in U.S. Coast Guard funding will create a void that State governments must consider filling--particularly in the area of boating safety and marine environmental protection.

Implementation of proposed changes in Federal and State responsibilities and authorities will have some obvious consequences. Following the initial transition period and the phase-out of Federal program funding, many States will be unable to bear the imposed burden of maintaining programs. This will naturally result in a decline in economic equity among the States. Accompanying this development will be a concomitant decline in regulatory efficiency, since the Federal government is thought to be a more efficient regulatory body than many States, especially in matters having national implications. Another concern is the development of a lack of uniformity in regulatory requirements as the States assume their new responsibilities.

With the shift in responsibility and the phase-out of Federal funding, States will be required to seek alternative ways to finance and organize their programs. Of the numerous proposals made, alternative funding mechanisms will probably consist primarily of some combination of user fees, revenue sharing, and private-sector financing.

User fees have already been advocated as a means for the Federal government to finance some services. A fee of between \$50 and \$600 per year, per vessel, has been suggested as a means for the U.S. Coast Guard to recoup the costs of providing navigational services to recreational boaters. User fees could also be used to fund State administered programs.

Outer Continental Shelf oil and gas revenue sharing is another potential funding mechanism. Under revenue sharing proposals, States would share in revenues from oil and gas production on offshore leased tracts. These revenues could be used to finance existing coastal and ocean programs.

Private-sector financing is advocated by the Reagan Administration as a means of meeting social problems. The "volunteer" approach may also have a place in solving some environmental problems. Foundations such as the Nature Conservancy have had a traditional role in solving environmental problems, primarily by land acquisition. Such funding is merely subsidiary, however, and cannot be depended upon in any exclusive sense.

The problems associated with altering Federal and State relationships will bear heavily on the future course of ocean management programs in the United States. Any attempt at devising a regional ocean management plan must recognize and seek to accommodate these changing relationships.

The regional ocean management plan for the Gulf of Maine proposed in Chapter 4 of this study seeks the optimal common ground among all key developments in the domestic and international forums. The plan attempts to define the Federal and State roles that can be expected to develop along the continuum of Federal and State responsibility and authority. The proposed plan is also structured to provide an ocean management capability within a still emerging jurisdictional framework.



## CHAPTER 2

### RATIONALE FOR DEVELOPING A COMPREHENSIVE OCEAN PLANNING PROCESS

After a long evolution, ocean management philosophy in the United States has reached the stage where a strategic reassessment of future goals and objectives is necessary. International as well as domestic economic and political events bearing on ocean management issues have changed our perspective on ocean resources. New physical demands are being placed on U. S. ocean resources, requiring a major effort at management.

In order to succeed, a major ocean management initiative will require a sound rationale for a change from the status quo, a clearly defined set of objectives, and a clear indication at the outset that identifiable benefits will accrue to all interests within the ocean constituency.

The rationale for a change from current policy simply stems from the realization that the system as it is now structured does not work well. The present management structure is incapable of effectively and expeditiously resolving conflicts among ocean uses and resources. It is a patchwork of programs, laws, and regulations that reflect the conventional policy thinking at the time of implementation. Over the years the structure has become compartmentalized and fragmented, for it developed incrementally, responding to discrete issues. No single agency with a clear mandate or authority has ever emerged to integrate the system into an effective management mechanism. Efforts to refine the current system have only resulted in a larger, no more efficient bureaucracy.

The U.S. needs a comprehensive administrative and legal framework that will allow streamlining of regulations, a focusing of authority, and an efficient coordination of ocean resources and activities. Any such plan must strike a balance between the needs of the constituency of ocean users or affected interests and what can reasonably be expected to gain acceptance within the legislative and policy framework through which it must be created. If the interests of either group--the constituency of users, or the law and

policymakers, whatever their level--are not adequately served, the plan is unlikely to succeed.

The objective of future ocean management initiatives differ from those of the past. The concept of comprehensive management implies elimination of the piecemeal response to individual issues. Traditional U.S. ocean policy was motivated by a desire to resist the enclosure of the ocean and its resources, largely for reasons of national security and defense. It was thought that a conservative approach to ocean resource enclosure would encourage other coastal nations to adopt the same strategy.

But single issue strategy is less important today. The resolution of numerous jurisdictional disputes between the States and the Federal government, coupled with the conservatively worded provisions of the UNCLOS III Convention regarding the establishment of territorial seas and exclusive economic zones, have ameliorated concern about further enclosure of ocean resources. Fundamentally, these developments pave the way for the U.S. to devise an ocean management strategy based on prudence, instead of avoiding such a strategy out of concern for ocean resource enclosure.

### **Reasons for a Comprehensive Approach**

The incremental development of the current ocean management system has led to problems that cannot be overcome by efforts to refine the present system. For example, there is a need to eliminate overlaps and gaps in the current Federal and State mosaic of jurisdictions and authorities. Any revised ocean management scheme should promote efficient development of ocean resources, strive to provide maximum public benefit from resource use, and be flexible and able to accommodate differences in resources and their uses.

The development of new technologies and capabilities, when viewed against intensifying use of ocean space and resources, makes it imperative that future ocean management plans can adapt to new types of ocean uses. Many such uses, previously considered distant goals because of technological requirements and economic impracticality, have become near-term objectives as

well as matters of economic feasibility and necessity. Changing global resource use patterns are fostering a reassessment of the range of ocean resource possibilities. These may include deep seabed mining, extraction of recently discovered polymetallic sulfide deposits and other hard minerals, and tidal power generation.

### **Regulatory Reform**

The Federal government is pursuing a broad course of regulatory reform intended to reduce burdens on industry and commerce through lifting of unnecessary rules and regulations. Where rules and regulations cannot be eliminated, individual agencies are introducing streamlining measures to ensure efficiency in the regulatory process. These reforms may identify overlaps and gaps in the regulatory process as it bears on ocean activities. Streamlining within some agencies having marine-related regulatory functions has already occurred. With these streamlining and regulatory reform efforts underway, the time has come for a concerted review of the entire U.S. ocean management system.

Formulation of an ocean management plan at this juncture will also be consistent with the widespread reassessment of Federal and State responsibilities and relationships--the New Federalism. Gaps and overlaps in the administrative structure should be reviewed, and bridged or eliminated. Where such action is not possible, other administrative or coordinating mechanisms may be implemented--without adding new levels of bureaucracy.

Jurisdiction and permitting responsibility for offshore oil and gas pipelines, for example, show clear overlaps and redundancies typical of multiple agency involvement. Present movement of OCS oil and gas to shore is almost exclusively through pipelines. Commercially producible quantities of oil and gas, if discovered and developed in Georges Bank or elsewhere in the Gulf of Maine, would probably require construction of a pipeline within the region to move those resources to shore-based processing or storage facilities.

Federal authority for such pipeline routing and operations on submerged OCS lands is vested in several agencies. These include the Minerals Management Service (MMS); the U.S. Army Corps of Engineers (ACOE); the Federal Energy Regulatory Commission (FERC); the Interstate Commerce Commission (ICC); and the Department of Transportation (DOT), Materials Transportation Bureau. Each agency issues permits or grants approval based on specific jurisdictional considerations. One office of the MMS grants rights-of-way for pipelines on the OCS which are contained within the confines of a single lease, adjoining leases, or unit areas. Another authorizes pipelines on the OCS that leave a leasehold. The ACOE issues permits for construction that include pipelines on the OCS and other navigable waters. Its principal concern is with navigation. The FERC grants "Certificates of Convenience and Necessity" prior to construction of projects involving transport or sale of interstate natural gas and must investigate environmental effects, potential reserves, demand for the gas, and available capital to develop the resource. The ICC grants approval of the tariff rates for transporting oil by common-carrier pipelines. The DOT Materials Transportation Bureau establishes minimum standards for pipeline construction, operation, and maintenance.

Similar overlaps may exist in each of the States within whose territorial waters a proposed pipeline may be constructed. The residual effects of these burdensome regulations are higher construction costs, higher consumer prices, excessive delays, and inefficient management of activities within the ocean user community.

The regulatory framework that characterizes pipeline placement on the OCS submerged lands is broadly indicative of the entire Federal and State regulation of ocean activities. Similar overlaps exist in regulation of dredge spoil discharge and ocean dumping as provided in the Federal Water Pollution Control Act and the Marine Protection Research and Sanctuaries Act. Provisions of both these Acts provide for jurisdiction over dredge spoil discharge in the territorial sea: the FWPCA regulates discharges in domestic navigable waterways, including the waters of the territorial sea, while the MPRSA regulates both within the territorial sea and seaward. Further discussion of this particular issue may be found in Chapter 3.

Narrowly defined regulatory mandates and differences in such mandates encourage overlapping jurisdiction with other agencies. Gaps in jurisdiction sometimes occur where an artificial jurisdictional boundary, such as the line delimiting Federal and State waters (territorial sea), is dealt with imprecisely in specific legislation. The consistency provisions of the Coastal Zone Management Act are themselves imprecise. Section 307 (c)(3)(A) provides that Federal licenses and permits for activities significantly affecting land and water uses in the coastal zone may be granted if the affected State concurs that the activity complies with, and will be conducted consistently with, its coastal zone program. The legislative language of the section is subject to wide interpretation, and uncertainty is likely to persist until the courts rule on Congress' intent. The Coastal Zone Management Act, as an experiment in Federalism, has resulted in overlaps in jurisdiction and authority between the State and the Federal governments, disagreements have resulted in delays, costly litigation, and administrative tangles. An ocean management plan must eliminate gaps and overlaps in both Federal and Federal/State regulation.

#### **Maximum Public Benefit**

Such a management plan should also promote efficient development of ocean resources while ensuring maximum public benefit from their use. Efficient development of resources is a major principle in ocean management and can best be achieved by promoting multiple uses. The principle of multiple use encourages efficient development if resources are used in the combination that best meets the needs of the people who depend upon them. Multiple use demands harmonious and coordinated management of the various resources without impairment of the ocean's productivity, and with consideration given to the relative values of the various resources, rather than simply the combination of uses that will give the greatest dollar return or unit output. This description of multiple use is a paraphrase of Congress' definition in the Multiple Use and Sustained Yield Act of 1960 and in the Classification and Multiple Use Act of 1964 (2).

Maximum public benefit from resource use is a difficult concept to define with precision. It may be most closely associated with the concept of optimum

sustainable yield. Achieving optimum sustainable yield is tantamount to providing the greatest benefit, to the greatest number of people over the longest period of time. Development of an ocean management plan will identify a mechanism for achieving greater public benefit from ocean resources.

### **Accommodation of Resources and Uses**

A comprehensive ocean management system should be flexible and capable of accommodating regional differences in resources and their uses. Ocean resource uses and activities are dynamic, responding to economic, social, political, and technological factors that are subject to considerable variation over time and from region to region. In order for an ocean management system to succeed it must be capable of accommodating these variations.

For example, the Gulf of Maine contains major fishing grounds; the region in recent years has also become one focus of OCS oil and gas exploration. Competition between commercial fisheries and offshore oil and gas operators has intensified. An effective regional ocean management plan would offer the opportunity to resolve this conflict and strike a reasonable balance between the interests of the two groups. Such a plan is likely to differ from regional plans implemented elsewhere--for example, in the Gulf of Mexico, where the emphasis on oil and gas exploration and development has greater regional economic importance.

Few reasons for initiating a comprehensive ocean management plan are more pressing than that of providing a means for dealing with new resource developments and technology advancements. Changing patterns of marine resource use, in the absence of a comprehensive plan, will result in additional stopgap regulatory measures. Coordinating mechanisms must be developed to integrate new and existing activities, to avoid the piecemeal handling of problems.

High on the list of new ocean resource developments is seabed mining. Such mining, while not an outstanding prospect for the Gulf of Maine (except for sand and gravel) is presently feasible in other regions. For example, manganese

nodule mining on the Blake Plateau is on the threshold of becoming reality. But a stable legal and political framework is necessary to ensure such mining's continued development. The location of the potential mining operations is a problem since the staging areas are outside the jurisdiction of any country. Although the UNCLOS III Convention has provisions for deep seabed mining, the U.S. does not plan to sign the treaty because of objections to those provisions. The U.S. may need to provide additional legislative assurances of stable investment conditions to potential miners, to allow ocean mining efforts to proceed.

The mining of polymetallic sulfides, also not a possibility in the Gulf of Maine, will likely require legislation or clarifications in existing legislation. The mining of other hard minerals, while in its infancy, is certain to emerge as a major industrial effort if technological and economic feasibility are facilitated by a stable and predictable management climate.

There is also the prospect of development of sophisticated forms of electric power generation using ocean resources. These include ocean thermal energy conversion (OTEC) and tidal generation. Because the Gulf of Maine lacks the appropriate water column thermal gradient, OTEC power generation is not likely. Tidal power generation, on the other hand, is a probable future ocean use in the Gulf of Maine. The region, especially the Bay of Fundy, has most favorable conditions for such generation. Proposals for tidal generation plants have been made since the 1930's. The most frequently named American area for such a facility is on the Passamaquoddy River, near the U.S.-Canadian boundary.

Accelerated OCS oil and gas leasing and development in the U.S. has been cleared by the Department of the Interior with the issuance of its final five-year OCS oil and gas leasing schedule. Under the revised program, increased offshore acreage will be made available for lease to the oil and gas industry more quickly than under the previous schedule. The new schedule calls for three lease sales in the North Atlantic, to be held between July, 1982, and June, 1987. Industry interest in the North Atlantic OCS planning area is likely to focus on the Georges Bank, but area-wide leasing introduced under the revised leasing program allows for the possible leasing of tracts anywhere in the North Atlantic

planning area, which includes the entire Gulf of Maine within U.S. jurisdiction. This expansion and acceleration of leasing activity raises the specter of greater conflict between the oil and gas industry and the Gulf of Maine commercial fishermen.

With the development of new and expanded uses of ocean resources, legislation and administrative coordinating mechanisms become necessary. Adoption and implementation of a comprehensive ocean management plan would provide a framework for coordinating those legislative initiatives and ensuring consistency in ocean policy.

### **Objectives of Ocean Management**

A comprehensive ocean management plan should be designed to achieve the following objectives:

- o resolve conflicts between marine users and resource utilization;
- o integrate legislation and programs forming a functional system for managing current and future activity; and
- o establish a focus of authority through an organizational structure that can coordinate, integrate, and streamline the many existing marine regulatory policies.

Conflict resolution is an obvious objective of a comprehensive ocean management plan, but it is a problem of many facets. There are conflicts among ocean uses, ocean users, institutions, agencies, States, and regions. Conflicts may also arise between State and Federal governments and agencies, between uses and the natural environment, and between mechanisms devised to minimize conflict. When two or more of these conflict areas overlap, differences must be resolved.

Conflict occurs in degrees along a continuum from little or none to total conflict. The greatest opportunity for devising an ocean conflict resolution mechanism is in the mid-range, where compromise and partial satisfaction may be achieved. Where there is complete agreement, no compromise or conflict



resolution mechanisms are required. In situations where complete disagreement exists between elements, the ultimate resolution mechanism is the courts, Congress, or an established arbiting entity. The objective of an ocean management plan is the minimization of resort to the courts and the Congress as arbiters of disputes. Where total conflict exists and the courts or the Congress act as arbiters, a compromise solution is seldom achieved. Such conflicts have one winner and one loser.

Mechanisms to achieve conflict resolution for the mid-range of the conflict continuum already exist in various forms. For example, the consistency provisions of the Coastal Zone Management Act were designed to prevent conflict by early consideration of the relative interests of the States and the Federal government. The proposed ocean management plan for conflict resolution presented in Chapter 4 is designed along existing lines. The principal means of resolution are information exchange, coordination, and planning.

A second broad objective of the proposed plan is integration of existing legislation and programs into a functional management system. This may require eliminating redundant legislation and consolidating other legislated programs. The key to achieving this objective is the development of a plan that also minimizes the need for legislative initiatives and new program implementation. In essence, the plan should be capable of being adapted and implemented at minimum additional cost (a reduction in ultimate cost would enhance the probability of implementation), and without incurring additional levels of bureaucracy. To be consistent with the broad goals of the "New Federalism," the plan must provide for the integration of existing State and Federal programs. To be effective, the plan must streamline management, reduce costs and delays, provide a meaningful Federal/State sharing of responsibilities and authority, and improve decision-making and policy implementation.

The third broad objective is the creation of a regional focus. This may be achieved by designing an organizational structure that can meet the major objectives of coordination, integration, and streamlining of the existing variety of regulatory devices. The principal regional organizational structure should consist of an ocean management council. The council would have

representatives from the respective States and the Federal government, as well as other regional interest groups (the details are discussed in Chapter 4) and would serve as the focus for future regional ocean management.

### **Benefits Of Comprehensive Ocean Management**

It is clear that some identifiable benefits of the plan will have to accrue to all institutions and agencies involved in ocean use in order for the plan to gain broad support. The following list identifies the benefits that should result. The plan would:

- o provide a consistent and predictable marine policy and approach to the development of ocean resources;
- o promote efficient resource utilization through economically sound resource development and environmentally responsible use, while minimizing the need for lengthy judicial intervention in marine resource conflicts;
- o address the needs of the broad ocean constituency, including Federal, State, and local governments, commercial users, and institutional and recreational users; and
- o provide a flexible and responsive management scheme capable of adapting to changing concepts of ocean uses.

A consistent and predictable marine policy and approach to ocean management is necessary to ensure expeditious, efficient, and uncontested resource use. The surest way to encourage a broad range of resource uses is to provide a predictable regulatory framework that allows industry to plan for the allocation of capital without jeopardizing its investment. The regulatory framework must eliminate jurisdictional disputes, minimize the potential for costly and time-consuming litigation, and provide an unambiguous and consistent set of operating rules and regulations. A predictable operating environment benefits all users, because compliance with policies is easier, cheaper, and less time-consuming when decisions are not made and enforced arbitrarily.

Efficient resource utilization will directly benefit the entire user community, while indirectly benefiting those who make use of the oceans as a public resource. Resource development will be cheaper and faster, resulting in less expensive goods. At present there is frequently no satisfactory arbiter of disputes, and the nuances of each piece of legislation must be interpreted by the courts or by additional legislation or amendments. In the proposed plan most conflicts can be resolved at the regional ocean management council level, reducing, and ideally eliminating the role of the courts, and certainly the Congress. In cases where disputes and conflict are hopelessly deadlocked, the courts and the Congress may still serve as the conflict resolution forum of last resort.

Economically sound development occurs when industry is allowed to develop resources in a profitable environment. To accomplish this, industry must minimize costs through efficient management and cost control techniques. Industry must also have the opportunity to develop resources with a minimum of burdensome regulation and costly policy compliance that may render their operations economically unfeasible.

In the same vein, efficient resource utilization is compatible with sound environmental stewardship. The integrity of the environment will be maintained if ocean resources are developed within the context of a sound ocean management plan. The regional ocean management council will be the principal coordinating mechanism, ensuring compliance with existing environmental statutes while acting as a conflict resolution authority to balance environmental concerns against other considerations.

A comprehensive ocean management plan will address the user community's needs by ensuring broad representation within the plan's structure. Federal, State, and local governments will participate in the management process. The regional nature of the ocean management council accommodates a shared Federal and State participation. Commercial interests are served by representatives of industry and commerce, who participate in the council's decision-making process in an observer status. Academic and research institutions also have representation on the council. To ensure that the decision-

making process is representative of the entire user community, the management plan may be subject to restructuring in order to accommodate the user community's changing composition.

The management plan will also allow for changing concepts of ocean uses. Flexibility within its structure and the assurance of a mandatory review procedure for its maintenance will allow the process to adapt to change in future ocean use. Several new technologies have already been identified; others, yet unrealized; may be developed in the next 25 years. For example, floating nuclear power plants and waterfront urban airport construction have been proposed. The plan must accommodate these and other possibilities.

The flexibility to accommodate a changing economic, political and social framework is an equally important consideration in the formulation of a comprehensive ocean management plan. The economic, political, and social fabric of the country broadly influences resource use. A flexible and readily adaptable ocean management plan will allow resource use to respond to changing relationships among those components.

### **A Regional Approach To Comprehensive Ocean Management**

Against the background and evolution of ocean management strategies presented in these first two chapters, the development of a comprehensive ocean management plan with a regional focus is the most reasonable and practical choice. The plan proposed in this study is a regional one for the Gulf of Maine, but it can serve as a prototype for similar plans for other regions of the United States.

Major trends within the U. S. in recent years suggest the usefulness of a regional approach to comprehensive ocean management. These include the emphasis on more State participation in decisions regarding resource development, especially in areas of overlapping or adjacent jurisdictions, and the trend toward decentralization of Federal functions. Decentralization of governmental functions allows the recognition of regional variations in resource use, in economic bases, in social and cultural considerations, and in

administrative, fiscal, and decision-making prerogatives. In general, the regional approach allows a more flexible and responsive management regime.

The following chapter contains a discussion of the Gulf of Maine study area, identifying the region and its features and providing an analysis of the regionalization scheme and major ocean use categories in the region.

### **CHAPTER 3**

#### **THE REGION AND PRIMARY MARINE USES**

Ocean management, as introduced in the preceding chapter, is the nebulous process by which policy/administrative decisions are made regarding the development, conservation, and protection of marine resources. As a quick perusal of Appendix B, "Significant Domestic and International Events and Legislation", will indicate, much of the legislative activity focused on utilization of these marine resources has been single-purpose and/or resource specific. Resource management by reaction to, rather than by anticipation of, related events is both costly and counter-productive.

In examining the concept and application of ocean management, this study presents a review of current governmental activities and suggests modifications. The focus is split between Federal and regional mechanisms which are, or could be, employed to coordinate governmental policy and administrative decision-making with regard to ocean management.

#### **Regionalization Scheme**

A geographical regionalization scheme is proposed to facilitate the generation of a responsive administrative mechanism through which to implement ocean management policy. The regionalization scheme employed herein to define the management area selected for detailed study combines both natural and political features.

This study area roughly corresponds to that portion of the Gulf of Maine subject to U.S. jurisdiction. The southern boundary of the study area is a line beginning at the southern end of Cape Cod and extending due east to the Fishery Conservation Zone (FCZ) line, as established by the U.S. The FCZ line delimits American from Canadian waters within this area. The actual delimitation of this border is the subject of litigation between these two countries that is currently pending before an ad hoc panel of the International Court of Justice. The dispute will be discussed in greater detail later in this chapter.

The southern border of the management area, Cape Cod, presents a natural biogeographic boundary for this regionalization scheme. The primary offshore forcing function influencing coastal ecosystem characteristics in the area from Cape Cod north is the Labrador Current (44). From Cape Cod south, the influence of the Labrador Current is modified by that of the Gulf Stream. The southern boundary is completed by extending a line due east from Cape Cod to the U.S. FCZ line.

The remaining borders of this management area correspond to existing political boundaries. From the intersection of the southern boundary, as described above, the eastern border of the study area is provided by the FCZ line itself. The FCZ is traced north to that point at which the U.S.-Canadian boundary is delimited. The western boundary of the management area is drawn from this point southward to Cape Cod, including the coastal zone as defined by the three coastal States adjoining this area and as provided for under the Coastal Zone Management Act (CZMA). New Hampshire's proposed delimitation of its coastal zone is being implemented in two phases. The first phase, covering the Atlantic coastal areas, was approved in mid-1982. The second phase, covering remaining tidally influenced areas (predominantly the Great Bay area), is now in the development stage.

Within the borders of the management area are several administrative areas. From the western border seaward, these areas are the coastal zone--including the territorial sea, the contiguous zone, and the Fishery Conservation Zone.

The coastal zone, as defined by Section 304(1) of the CZMA, "....means the coastal waters (including the lands therein and thereunder) and the adjacent shorelands (including the waters therein and thereunder), strongly influenced by each other and in proximity to the shorelines of the several coastal States, and includes islands, transitional and intertidal areas, salt marshes, wetlands, and beaches. The zone extends...seaward to the outer limit of the United States territorial sea." The inland boundary of the coastal zone is established by the coastal States and approved by the Secretary of Commerce. The outer limit of

the coastal zone corresponds with the seaward boundary of the territorial sea, which is currently established by the U.S. at three nautical miles.

Within the landward portion of the coastal zone, the interaction of State and local government determines coastal practice. In the offshore portion of the coastal zone, which corresponds to the territorial sea, jurisdiction and administrative control is largely retained by the coastal State government. The Federal government, however, retains all its navigational servitude and rights in and powers of regulation and control of said lands and navigable waters for the constitutional purposes of commerce, navigation, national defense, and international affairs. Additionally, the Federal government reserves the right to regulate select fisheries under specific circumstances (Section 306b, FCMA).

The contiguous zone concept was established under the 1958 Geneva Conference on the Law of the Sea. In the U.S. the contiguous zone extends beyond the territorial sea to a distance of 12 nautical miles from the baseline from which the territorial sea is measured. Jurisdiction within the contiguous zone is retained by the Federal government, to prevent infraction of its customs, fiscal, immigration, or sanitary regulations.

The last administrative zone within this Gulf of Maine ocean management region is the FCZ. The FCZ was established under the Fishery Conservation and Management Act of 1976 (P.L. 94-265), and extends from the outer limit of the territorial sea to a line drawn 200 n.m. from the coast. The Federal government holds jurisdiction and management authority over the living resources of the waters contained therein. The FCZ is administered by the Secretary of Commerce, in cooperation with eight regional fishery management councils and in coordination with other Federal agencies, adjacent State governments, and interstate fishery commissions. In the Gulf of Maine, neither the U.S. nor Canada is able to fully extend its 200 n.m. fisheries jurisdiction due to the configuration of the coast.

In a region like the Gulf of Maine, where the geographic situations of two or more coastal nations constrain the full assertions of territorial prerogatives such as the FCZ, the nations are encouraged to settle disparate claims through



negotiations. Failing agreement by negotiation, the claims must be settled judicially. These boundary delimitation provisions have been agreed to by all signatory nations to the 1958 Geneva Conventions on the Law of the Sea.

### **Gulf of Maine Boundary Dispute**

Before 1977, the U.S. and Canada exercised reciprocal fishing rights in offshore areas immediately adjacent to both countries. Fisheries in northern Atlantic waters utilized by both countries were regulated by the International Commission for the Northwest Atlantic Fisheries (ICNAF). In 1977, however, both countries unilaterally asserted 200 n.m. fishery management zones. These zones overlapped in the northeast sector of Georges Banks, a highly productive fishing ground of interest to both countries.

In an effort to avoid fisheries enforcement conflicts in the disputed area, the U.S. and Canada, through an interim agreement, pursued a course of flag-state enforcement of their own nationals for conservation measures. Reciprocal fishing rights were continued in undisputed waters, subject to coastal nation regulation. Additionally, special negotiators were appointed by each country, in August, 1977, with the intention of settling fishery and hydrocarbon resource and maritime boundary delimitation disputes.

During the period of these negotiations Canada issued a new boundary claim in the Gulf of Maine, adding the concept of equitable principles to its previous use of the equidistance principle. The equidistance principle would result in the drawing of a boundary every point of which is equidistant from the coast of adjacent or opposite coastal nations. The concept of equitable principles adds the notion of special circumstances, such as historic rights or certain geographic considerations, to modify the line. This new claim added 2,880 square miles, over half of which was on Georges Banks, to Canada's previous claim, by discounting Cape Cod and Nantucket Island as base points from which any U.S. claim could be extended.

In February, 1979, the special negotiators' recommendations for settlement of resource and delimitation issues were accepted by both governments. The

agreements reached consisted of two interlinked treaties governing fishery resources and boundary delimitation. The fishery treaty was to be resolved by mutual consent, and the delimitation of the U.S.-Canadian boundary in the Gulf of Maine was to be resolved by binding third-party arbitration. The fisheries treaty would take effect, if ratified, when the delimitation arbitration had been resolved.

While both treaties were rapidly ratified and adopted by the Canadian government, they stalled in the U. S. Senate, due to grave concerns among New England fishermen and Congressmen over the equity and permanency of the fisheries treaty. Many interested U.S. parties also felt that it was not wise to proceed on the fisheries treaty prior to settlement of the boundary dispute in the Gulf of Maine (25).

In 1981 President Reagan asked the U.S. Senate to withdraw the U.S.-Canadian fisheries treaty from further consideration. Additionally, the fisheries treaty has been uncoupled from the boundary delimitation treaty with the consent of the Canadians. The boundary dispute is currently before a special chamber of the International Court of Justice. This chamber was constituted in early 1982 and will tentatively complete adjudication in 1984 or 1985. Initial memorials were presented by each government before this ad hoc chamber in September, 1982, with counter-memorials to be delivered in February, 1983.

### **Primary Gulf of Maine Activities and User Groups**

The remainder of this chapter is devoted to familiarizing the reader with the primary Gulf of Maine marine activities and user groups. The proposals made in Chapter 4 for coordination of governmental ocean management programs, while of a prototypical nature, are to some degree tailored to the Gulf of Maine region. The Gulf of Maine States have a long and reasonably successful history of regional cooperation, and the adoption of these proposals is practical if not imminently, then within the near future. A series of plates provided in Appendix D depicts major coastal and ocean resources and uses.

## **Fisheries**

### **Commercial Fisheries**

As noted before, the oceans are a common property resource possessed of no private title. Accordingly, the harvest of natural resources, particularly the mobile fishery resources, went unfettered by governmental regulation and broad claim until the mid-1900's. After that time the fisheries harvesting effort began to meet and exceed levels of sustained yield for numerous commercial species. As scarcity played a more important role, coastal nations, in particular the U.S., began to investigate the idea of restricting access to waters adjacent to their shores.

Conflict between U.S. and foreign commercial fishermen began at least as early as the 1930's, when U.S. and Japanese fishermen became embroiled over access to Pacific salmon off Alaska (21). Though the two governments publicly reached accord on Japanese fishing in the marine waters adjacent to Alaska, during this time members of the Roosevelt Administration began to advocate extension of U.S. jurisdiction over marine fisheries. The results were the famous Truman Proclamations. The most visible of these proclamations, both of which were actually constructed and approved under Roosevelt, pertains to the continental shelf. The counterpart proclamation focused on fisheries and U.S. assertion of its right to apply conservation measures over stocks found adjacent to its shores. This proclamation, issued in 1945, shortly after Truman assumed office, unilaterally asserted the right of the U.S. to establish conservation zones in waters adjacent to its shores and above its continental shelf. The Truman fisheries proclamation set a precedent and served as a basis for subsequent claims of numerous Latin American countries, who soon began to assert a variety of offshore claims.

The Gulf of Maine has seen several attempts to manage its valuable commercial fish stocks multilaterally, because of the historical use of these fishing grounds by nationals of various countries. In this regard the Gulf of Maine was usually included as part of a larger region termed the Northwest Atlantic. These multilateral efforts to manage commercial fisheries adjacent to the U.S. were largely unsatisfactory to American fishermen and those championing their interests. Overfishing of commercial fish stocks important to

U.S. fishermen on both the Pacific and Atlantic coasts, notably the haddock fishery off New England, led in 1976 to another U.S. unilateral assertion of its right to manage fisheries adjacent to shores. The legislatively-enacted Fisheries Conservation and Management Act (FCMA) of 1976 (16 U.S.C. 1801 et seq.) extended U.S. jurisdiction of fisheries to a distance 200 n. m. from the coastal low-tide line. Within this ocean space, known as the Fishery Conversation Zone (FCZ), the U.S. manages fisheries by balancing both resource conservation and promotion of the domestic fishing industry.

The United States FCZ contains approximately 20 percent of the world's currently exploited fishery resources. Though world production has more than tripled over the past two decades, the U.S. share of the harvest has increased only marginally. These factors weighed heavily in the U.S. decision to adopt the 200 n. m. fisheries limit, which took effect in 1977. Shortly following the U.S. announcement, the Canadian government took similar initiatives, resulting in the jurisdictional conflict in the Gulf of Maine presently under adjudication before the International Court of Justice.

The FCMA established offshore fisheries jurisdiction, a regionally-oriented management scheme, and a procedure for foreign access to the FCZ. As noted, jurisdiction under the FCMA extends from three to 200 nautical miles from the U.S. coastline. The management scheme employs eight regional councils to prepare fishery management plans (FMP's) for each major fishery under their jurisdiction. Today, six years after enactment of the FCMA, all major U.S. commercial fisheries predominantly in the FCZ are covered by FMP's.

The regional councils are composed of Federal, State, and private representatives, and maintain their own staffs. They receive technical assistance from NOAA's National Marine Fisheries Services (NMFS) and, subject to review by the Secretary of Commerce, their FMP's are implemented by the Department of Commerce. The FMP's are enforced by both NMFS and the U.S. Coast Guard. The regional councils set the total allowable level of foreign fishing (TALFF), which is then allocated by the Secretary of State, in consultation with the Commerce Department, among foreign nations wishing access to the FCZ. The TALFF represents that portion of the optimal yield of

each fish stock which cannot be utilized by the domestic fishing industry. The FCMA defines optimal yield as the harvest of fish which provides the greatest overall benefit to the U.S., prescribed on the basis of maximum sustainable yield as modified by relevant economic, social, or ecological factors.

Within the three n. m. U.S. territorial sea, the coastal States retain complete management and enforcement authority for commercial and recreational fisheries. The FCMA does provide for Federal regulation of a commercial fishery that is harvested predominantly within State waters, under limited circumstances, but provides for resumption of State authority after approval of adjustments to State management initiatives.

Extrapolating from the preliminary data in the 1981 edition of Fisheries of the United States, commercial landings of fish and shellfish by U.S. fishing vessels within the territorial sea account for approximately 61 percent of the volume and 52 percent of the value of the landings within U.S. waters (48). While these data are preliminary, they do indicate the relative magnitude of the commercial harvest of fish within the territorial sea. They also show the importance of coastal State management efforts and the need for coordination between the States, regional councils, and Federal government in fishery management initiatives. Table 1 provides a synopsis of fishery statistics for the three New England States which border on the Gulf of Maine. The data for Massachusetts are compiled from ports throughout the State, not solely those on the Gulf of Maine.

The Gulf of Maine's major commercial fishing ports are Portland and Rockland, in Maine, and New Bedford, Gloucester, Boston, and Provincetown, in Massachusetts. Though these ports account for the highest landings and value for the commercial fishing industry in the Gulf of Maine, numerous other, smaller fishing ports along the coast provide bases for many New England fishermen. In 1981, New Bedford and Gloucester were among the top 10 fishing ports in the U.S. in terms of both quantity and value of landed catch.

**Commercial Fisheries Management.** The U.S. 200-mile FCZ has not produced the boom in the fishing industry anticipated by some interested parties especially

Table 1. Commercial Fisheries Landings, By State\*

	1976		1977		1978		1979		1980		1981	
	Pounds	Dollars	Thousand Pounds	Thousand Dollars	Thousand Pounds	Thousand Dollars	Thousand Pounds	Thousand Dollars	Thousand Pounds	Thousand Dollars	Thousand Pounds	Thousand Dollars
Maine	177,827	53,813	182,187	61,997	190,203	68,833	232,105	80,260	244,686	92,697	238,107	103,945
New Hampshire	3,468	1,083	4,001	1,473	4,862	1,750	7,495	3,327	19,050	5,182	7,690	4,162
Massachusetts	288,518	97,605	319,292	114,017	376,878	152,251	374,706	175,544	438,382	178,602	369,640	196,854

\*Landings are reported in round (live) weight for all items except univalve and bivalve mollusks such as clams, oysters, and scallops, which are reported in weight of meats (excluding the shell). Data are preliminary.

Source: Fisheries of the United States, 1977, 1978, 1980, 1981; National Marine Fisheries Service; Department of Commerce.

the processing sector. The FCMA has only been in effect for six years, however, and an adjustment period is to be expected. From the time of enactment of the FCMA to 1981 the U.S. share of fish harvested nationwide within the FCZ, excluding tuna, had risen from 23 to 39 percent (48). The largest share of the total foreign harvest in the FCZ occurred off Alaska (91 percent), with the share from the North Atlantic accounting for five percent of the total foreign catch (48).

The organizational structure currently responsible for designing and implementing commercial fishery management plans was briefly described above. Considerable fine-tuning of a management initiative of such magnitude as the FCMA could be expected in the years immediately following its enactment and the FCMA has been no exception. However, what is perceived to be a shift of direction in U.S. fisheries management is also occurring. As with numerous other Federal endeavors, declining budgetary resources and increasing pressure for decentralization and fiscal austerity are serving as formative forces. These forces are probably not short-lived phenomena, and future management initiatives should be tailored accordingly.

Few parties would argue that fishery resources do not require governmental management. In light of their common property status and the exploitative pressures to which they are subject, lack of management would be catastrophic to all concerned. With this in mind, and taking into account the contemporary trends described above, it would appear that future fishery management and regulatory initiatives will be directed at:

1. Only those fisheries subject to significant commercial pressures. The regional fisheries councils will not be required to prepare FMP's for all fish stocks under their jurisdiction. Further, the FMPs will be multi-year and for multiple species, in recognition of the need for procedural streamlining and the biological interdependencies of various fish stocks. The FMP's are likely to be constructed by the regional fisheries councils in a framework fashion, with seasonal variations in the plans promulgated by NMFS. The framework plans will establish the criteria upon which the NMFS regulations will be based. Continued Federal involvement via NMFS will be required to assure that the real needs of the fisheries are met, as the Federal government is less susceptible to parochial

pressures. The proper balance between development and conservation will remain a contentious issue.

2. Adjusting the decision-making structure for fisheries management. Notwithstanding Executive Order 12291, the regulatory control mechanism of the President's Office of Management and Budget, greater decentralization is in store for fisheries management. At the Federal level, the regional director of NMFS will arbitrate all but the most significant or contentious decisions. The States will gain much more authority over species harvested predominantly in their waters and species harvested off a single State. This means increased regulatory responsibility for coastal States. Though not immediately forthcoming because of States' reluctance to cede regulatory power, interstate fishery management agreements will be used more often to achieve regulatory consistency for trans-jurisdictional fisheries. In the Gulf of Maine region such agreements would come under the auspices of the Atlantic States Marine Fisheries Commission. Species of transboundary significance for both the States and the Federal government could be managed more consistently with greater use of interstate commission-regional fishery council agreements.

3. Achieving greater use of cooperative agreements between the regional councils, Federal government, and States in areas such as data gathering and analysis, research, regulatory implementation, habitat protection, marine mammals and endangered species, and enforcement of regulations.

4. Generating more direct involvement by the private sector. Governmental measures will be constructed to create an investment atmosphere while conserving the resource. Opportunities for the private sector will arise from the gradual phase-out of foreign fishing within 200 miles of the U.S. coast, the greater use of "fish and chips" policy by the Federal government to create and expand foreign markets, and use of joint ventures with foreign processing vessels until such time as the domestic shore-side processors can handle the landings bound for foreign markets.

5. Finding alternative funding for fisheries programs. The increased use of Federal block grant funding will allow the States to set their own priorities



for fisheries. Should it materialize, revenue sharing from Outer Continental Shelf hydrocarbon and hard mineral resource development will allow the States greater latitude in entering cooperative agreements designed to meet the needs of fishery management programs. Greater reliance on user fees in administrative cost recovery will develop, but parochial political pressures will probably not allow recovery of costs for less direct services, such as enforcement, research, and market development.

Individually and collectively, future initiatives in fisheries management will be directed at resolving the problems of jurisdiction -- between States, between the States and Federal government, and between regions; at expediency in plan development and implementation; and at establishing the proper balance between resource development and conservation. It is impossible to predict the exact form future fishery management organizations may assume, but the recommendation made in the next chapter would fulfill the objectives of shared responsibilities and benefits between the States and the Federal government and of balancing fisheries concerns with other ocean uses and users.

### **Ports and Commercial Shipping**

Seaports are the principal land/water interfaces through which commercial cargo enters or leaves the maritime transportation network, and are often the nuclei of the "working" waterfront in port cities. The cargo may be the subject of either international or domestic trade. As defined by the General Accounting Office (GAO), a seaport physically consists of "a harbor, piers and/or wharves, cargo-handling equipment, cargo-storage facilities, and railroad and/or highway connections." Port-associated economic activities, such as maritime business offices, marine insurance and cargo documentation offices, nautical hardware suppliers, bankers, ground transportation firms, manufacturing plants, shipbuilding and repair yards, etc., radiate from the port out into the "hinterland," the geographic area surrounding a given port within which the port may be used economically for shipping purposes.

Seaports are typically quasi-public organizations. The public portion of the port, often a local- or state-sponsored organization, is responsible for port

planning, management, and administrative functions. The public portion also typically handles nonbulk and specialized general cargo movements. Private interests often own facilities in or adjacent to the port area and are involved in the transport of bulk cargo, such as oil, grain, steel, etc.

Because ports function as links in the transportation network, they often elevate economic activity in a region, and are thus of great importance to the localities and States which contain them. The Maritime Administration (MarAd) reports that commercial ports contribute \$4 billion annually to localities and States in business and personal income. Port activities are no less important to the Federal government--MarAd estimates that ports pay more than \$10 billion in Federal taxes and collect \$6 billion in custom receipts. These port-collected custom receipts represent the fourth largest source of revenue to the U.S. Treasury, preceded only by individual and corporate taxes and Outer Continental Shelf oil and gas revenues (66).

Ports are highly competitive with one another because of their great economic benefits to local and State governments, and because typically the actual port facility operates with little or no profit. Many ports maintain their own marketing and public relations staffs, and are rushing to modernize their facilities to gain an upper hand in this competition, which has increased markedly in the last 20 years. Ship design increasingly favors the large, deep-draft ship to achieve economies of scale. Additionally, the advent of intermodal transportation (containers, ro-ros, barge carriers, etc.) has dramatically increased efficiency in loading and off-loading operations at ports equipped with the requisite capital intensive facilities. Not all the ports have the necessary capital to modernize their infrastructure and compete effectively, however, and the trend in recent years is toward centralization at bigger ports with smaller ports serving as part of a feeder system.

The economies of scale and efficiency increases in port operation have further increased competition by enlarging the size of the hinterland. This enlargement in turn has resulted in the overlap of hinterlands between ports within the same region, and even among ports on the same coast. Competitiveness is beneficial to the users of the marine transportation network -

-it keeps rates low--but it has also augmented the centralization trend in the national port structure that favors larger ports.

Federal involvement in port operations has a long history. Recognizing the competitiveness of ports, the U.S. Constitution early on established a policy of nondiscrimination by the Federal government in port development and operations (Article I, Section 9). Though the U.S. has no national port development plan, it has long been involved in providing maintenance and improvement dredging, port safety, and navigational aids. Federal involvement stems from recognition of the interrelationships between transportation, economic development, and national security. In recent years this involvement has grown due to increased port congestion in the export coal trade, the rising cost of Federal maintenance dredging and navigation improvement projects, and the expansion of international trade.

Port development is inextricably linked to international trade. After World War II the United States "emerged as the world's greatest trading nation, accounting for almost 18 percent of world trade," 95 percent of which was transported by water (66). In this same period, waterborne commerce in the U.S. tripled to 2.1 billion tons, equally divided between domestic and foreign destinations (66).

In recent years a booming trade has developed in the export market for steam coal. The rising cost of oil precipitated a change in the mix of energy feedstocks utilized by many western European nations and Japan. Steam coal exports from the U.S. grew from 300,000 tons in 1978 to 2.5 million tons in 1979, and 16 million tons in 1980. It has been estimated that they will reach 31 million tons in 1982 (66). Forecasts by the National Coal Association and the World Coal Study indicate a continued demand for U.S. steam coal. But bottlenecks in the coal transportation network continue to arise predominantly at ports. During a recent surge of export activity as many as 90 ships at a time lined up to load coal at U.S. East and Gulf Coast ports. The costs incurred by these vessels during idle waiting time are substantial. While port congestion problems have eased due to more efficient scheduling and other factors, the increased demand has spurred numerous new coal port projects. "In addition to

the 90 million tons of current effective capacity, construction of some 23 million tons in additional capacity is already underway. Plans call for a total of 160 million tons of capacity by the end of the decade" (66).

As mentioned previously, economies of scale have dictated increasing vessel size in all commercial cargo carriers, including coal colliers. These larger vessels can provide significant per-ton savings. The Office of Technology Assessment has estimated that a savings of 30 to 50 percent of the cost of transporting coal, currently \$18/ton, could be realized by using larger and more efficient vessels (69).

Both the greatly increased demand for coal and the call for more efficient transport vessels bode well for the U.S. export market. The limiting factor on development, however, will be port capacity and access. Numerous projects are planned, many of which require substantial harbor and navigation channel deepening. Traditionally, the Federal government has picked up the tab for maintenance and improvement dredging, but growing fiscal austerity is now calling into question the relative role of Federal, State, and local governments and private industry in financing such industrial efforts.

The problems and potential of ports in America have generated a great deal of Congressional interest. Recent Congressional and Administration initiatives indicate that State and local governments, private industry, and the ports themselves will be called on more often to bear the costs of maintenance and improvement dredging. User fees are one suggested means for transferring these costs. Such fees could cover much of the port's dredging costs. Further, the traditional Federal policy of non-discrimination among ports has been called into doubt. Advocates of a national port development strategy and agenda argue that such a plan would allow more directed and efficient development of national port capacity. It would, of course, incur the costs of centralization, including economic and social adjustment in both growth and decline of various port areas.

While a decentralized national port structure was once advantageous to trade, newly-developed factors tend to favor a somewhat more centralized approach. Primary ports are found today in large metropolitan areas with strong

industrial bases. The highly competitive nature of both ports and the trade market has produced many innovations in the maritime industry which have helped to reduce transportation costs. As a result, larger ports are able to compete more effectively than scattered, smaller ports.

The demand for cost savings has created the need for larger vessels, faster turnaround times in port, and faster voyages. One result is the rapid growth of the container industry. The intermodal container, partially spawned by the need for faster turnaround times in port and the demand for increased cargo security, has revolutionized the nonbulk general cargo market. Container shipping does, however, require an expensive onshore infrastructure for moving, storing, loading, and offloading.

In addition to the abovementioned costs, environmental regulation is directly affecting port development. Restrictions on dredge spoil dumping are *impeding channel maintenance and improvement*. Land use regulation, such as the Coastal Zone Management Act, together with general escalation of waterfront property value also adds to the constraints on port expansion plans.

Obtaining permits for port project construction can be a long and arduous process. A recent report by the U.S. House of Representatives notes an average 20-year time requirement from conception to authorization, for deep draft navigation improvement projects. These delays must be avoided if the U.S. is to capture a significant share of the export coal market and handle increasingly larger commercial vessels in international trade.

#### **Coastal and Ocean Recreation**

Coastal tourism and recreation in the Gulf of Maine region make an important contribution to the regional economy and constitute a significant seasonal industry in the coastal counties of Maine, New Hampshire, and Massachusetts. Marine and coastal recreational activities popular in this region include fishing, pleasure boating, and beach-related activities, such as swimming, sunbathing, hiking, surfing, and bird watching. Peak season for each of these varies, but the months of June through August account for the heaviest levels of

participation. Plate 4 in Appendix D shows major Federal and State coastal recreation and refuge areas in the region.

Numerous studies have examined selected recreational activities within this region and elsewhere, but the cumulative contribution of coastal and ocean recreation activities has received little serious quantitative study. The coastal zone management programs of each State in this region acknowledge the importance of the recreation industry to the coastal counties. A large portion of the recreation industry is contributed by tourists, but the growing coastal county populations provides an increasingly significant non-seasonal source of participants. In the Gulf of Maine States the demand for recreational opportunities exceeds the supply.

Coastal access has been a recognized problem in Maine, New Hampshire, and Massachusetts for some time, and the problem is increasing with the population shift to coastal counties. Most States claim as public property all beach lands seaward of the high tide line, and are attempting to acquire adequate beach and general recreation areas, but transportation, parking, and the difficulties of access across private property deprive many citizens of enjoying these public resources. The realities of declining State fiscal resources and increasing land value in the coastal zone further exacerbate the situation. Coastal and ocean access problems manifest themselves in a variety of ways, depending on the sector of the recreational industry examined. Following are several examples.

#### Recreational Fisheries

Recreational fishing, whether from piers, beaches or banks, charter or party boats, or rental or private boats, is a significant component of coastal and marine recreational activity. Recreational fishermen contribute directly, by their expenditures, and indirectly, via the multiplier effect, to the local and regional economy. Their take, mostly of food fish, adds to the local food supply, and simultaneously they spend money, and gain personal enjoyment.

It is difficult to accurately quantify the social and economic contributions of marine recreational fishing to the region and nation; consequently, this "industry" is often substantially underestimated. The National Marine Fisheries Service (NMFS) is the Federal agency directly responsible for such fishing. In 1981, NMFS adopted a new marine recreational fisheries policy designed to identify and quantify the users and industry, along with their impacts biologically, on the resource, and economically, on the nation. Further, the policy promotes industry "visibility" and input to the fishery policies of NMFS, the regional fisheries councils, and State fisheries agencies.

Recent estimates that there are 15 to 20 million U.S. recreational fishermen illustrate the national importance of marine recreational fishing. The harvest of these fishermen is estimated by NMFS to account for 30 to 35 percent of the total U.S. edible finfish harvest (48). Direct expenditures by marine recreational fisherman in 1980 were estimated to total \$6 billion, an increase of \$2.5 billion over 1975 (47). Indirect contributions are even larger.

In 1979, NMFS initiated the first nationwide survey of marine recreational fishing since 1970. Some surveys were made in the interim, but all were technically suspect as well as region-specific. The results of this survey should assist policy makers in evaluating the relative input of marine recreational fishing to ocean uses. Continued growth of this user group and industry, with associated economic and social benefits, will create several bottlenecks. Increasing competition for space in the coastal zone is creating economic disincentives for expansion of older marinas and siting of new ones in non-wetlands, gradual slope areas, but there is rising demand for dockage space. Additionally, increasing construction, mortgage, and maintenance costs adversely affect this marginal industry.

With dockage space problems showing few signs of easing, there will be greater demand that public access areas on water accomodate boats transported by trailer. Adding to access problems, beach, bank, and pier fishermen also have problems attempting to find transportation and gain access to non-crowded areas.

It appears that this ocean user group and its associated industry will continue to grow in the years ahead, but most of the problems experienced by marine recreational fishermen will have to be dealt with at the local and State levels.

### Pleasure Boating

The use of coastal and ocean waters for recreational boating has been on the rise for some time, probably reflecting increasing coastal county populations and the rise in disposable income many Americans realized during the 1970's. Most recreational boating occurs within the territorial sea, though significant numbers of larger vessels ply waters farther offshore. The New England coast, including the Gulf of Maine, is a very popular region for sailing and motoring.

Though it is generally recognized that recreational boating is growing significantly, a quantitative description of this growth is hard to find. One measure of the number of boats in a given state or region comes from statistics on boat registration and numbering. The Federal Boat Safety Act of 1971 requires that undocumented vessels equipped with propulsion machinery be numbered. This Act has given States the power to number boats within their jurisdictions once they have developed a numbering system. Within the Gulf of Maine, only New Hampshire has not instituted such a program. The Coast Guard performs this function on similar vessels used on waters subject to the jurisdiction of the U.S., i.e., beyond the territorial sea, and for States that do not have an approved numbering system.

Many State programs do not require the numbering of non-motorized sailboats, which constitute a significant portion of the total number of recreational boats. Nor do they differentiate between boats used primarily in marine versus fresh water, or between recreational and commercial boats. Recreational boats, however, comprise a significant portion of the total number, and these data confer a magnitude of order value. Table 2 presents a compilation of numbering statistics for States bordering the Gulf of Maine over the past three years. Table 3 provides another example of the magnitude of recreational boating in these three states by showing the size of the supplier industry for this activity.



**Table 2. Boats Numbered in the Gulf of Maine Region\***

	<u>1979</u>	<u>1980</u>	<u>1981</u>
Maine	117,167	113,714	115,090
New Hampshire	15,334	16,503	4,432
Massachusetts	173,834	179,049	181,549

\*Source: Boating Statistics, 1980 and 1981; U. S. Coast Guard, U.S. Department of Transportation.

**Table 3. Expenditures in Recreational Boating Industry, 1980**

**MASSACHUSETTS**

All boats	\$48,261,631
Outboard motors	9,471,600
Trailers	947,125
Accessories	<u>12,600,000</u>
TOTAL:	\$71,280,356

**NEW HAMPSHIRE**

All boats	\$9,379,285
Outboard motors	2,605,680
Trailers	241,120
Accessories	<u>1,200,000</u>
TOTAL:	\$13,426,085

**MAINE**

All boats	\$10,557,036
Outboard motors	4,656,960
Trailers	405,082
Accessories	<u>8,400,000</u>
TOTAL:	\$24,019,078

Source: George R. Woods, oral communications, December 1981.

Note: These estimates are made by the National Marine Manufacturers Association on the basis of equipment data and on USCG boat registrations.

These tables are not an extremely quantitative measure of the numbers of recreational boats in the Gulf of Maine, but they do confirm that there are a significant number, that recreational boating is a growing activity, and that it supports an important industry in these coastal states. In light of this, several problems face the recreational boater, primarily public access for berthing and launching, and boating safety.

The access problem discussed above for marine recreational fishing applies here, but is magnified by the disproportionately larger number of vessels used in recreational boating. The second problem, safety, is a very real concern to boaters. Based on information gathered by the Coast Guard, the U.S. fatality rate per 100,000 boats, though on a general downward trend, was 8.3 in 1981, and 9.5 in 1980. These fatalities resulted from more than 5,000 boating accidents in these same years. Additionally, well over 1,500 people were injured, with property damage between 13 and 16 million dollars (57).

The Coast Guard offers training on safe operation of vessels for those willing to enroll, but no license is required to operate a recreational boat. The Coast Guard also expends considerable effort regulating the safety of boats by setting construction and equipment standards for manufacturers. A more detailed discussion of the Coast Guard boating safety program is presented in Chapter 6.

#### Beach Related Activities

Demand for beach time has, been on the rise for at least the past decade. The increase mirrors general population growth in the U.S. as well as disproportionate growth in coastal counties, as opposed to the remainder of coastal States. Table 4 shows the growth in the coastal counties of the Gulf of Maine States. Visitation figures at various recreation areas also provide a measure of demand. Table 5 shows 1981 visitation figures at regional National Park Service Areas.

**Table 4. Gulf of Maine Coastal County Growth**

	<u>1960</u>	<u>1970</u>	<u>1976</u>	<u>% Change</u>			
				<u>In the</u>	<u>In the</u>		
				<u>Coast</u>	<u>State</u>		
				<u>60-70</u>	<u>70-76</u>		
Maine	439,851	464,883	509,700	5.7	9.6	2.4	8.0
New Hampshire	99,029	138,951	166,600	40.3	19.9	21.5	12.1
Massachusetts	2,597,027	2,862,093	2,956,500	10.2	3.3	10.5	1.8

Source: The Coastal Almanac, Ringold, Paul L. and Clark, John; 1980.

**Table 5. 1981 Visitation at National Park Service Areas**

<u>Facility</u>	<u>Location</u>	<u>Recreation Visits</u>
Acadia National Park	ME	2,977,972
Salem Maritime National Historic Site	MA	418,262
Boston National Historic Park	MA	1,754,142
Cape Cod National Seashore	MA	4,978,838

Source: National Park Service, 1982.

Beach-related activities include sunbathing, swimming, hiking, surfing, bird watching, and fishing. The demand for beach access varies within this region according to the beach type and distance from major metropolitan centers. The shoreline is predominantly rocky in Maine but becomes progressively sandy on the way south to Cape Cod.

Massachusetts is the most populous of the three Gulf of Maine States and has the greatest length of sandy beach, so it realizes a significant benefit from beach-related activities. New Hampshire and Maine also have significant "industries" built around seasonal beach-goers. Table 6 presents data on the impact of the recreation industry in the coastal counties of Massachusetts.

**Table 6. Massachusetts Coastal County Recreation/Sightseeing/Entertainment Visitor Days, 1977**

County	July August	% of State Total	Year Total	% of State Total
State total	8,414,301		16,936,807	
Essex	301,887	3.6	547,565	3.2
Norfolk	209,950	2.5	466,131	2.8
Suffolk	739,717	8.8	1,883,197	11.1
Plymouth	194,638	2.3	346,660	2.0
Barnstable	5,020,708	59.7	9,153,740	54.0
Nantucket	256,430	3.0	497,919	2.9
Dukes	306,513	3.6	576,600	3.4
Bristol	360,244	4.3	993,063	5.9
8 counties Subtotal	7,390,087	87.8	14,463,875	85.3

Expenditures (In thousands of Dollars)

County	July August	% of State Total	Year Total	% of State Total
State total	212,861		456,400	
Essex	8,624	4.1	16,960	3.7
Norfolk	5,998	2.8	14,819	3.2
Suffolk	20,948	9.8	56,714	12.4
Plymouth	4,164	2.0	7,947	1.7
Barnstable	124,076	58.3	234,069	51.3
Nantucket	6,627	3.1	13,467	3.0
Dukes	7,575	3.6	14,760	3.2
Bristol	8,846	4.2	26,819	5.9
8 counties subtotal	186,858	87.9	385,555	84.4

Source: Cournoyer and Kindahl, Travel and Tourism in Massachusetts, 1977: An Economic Analysis; Amherst, University of Massachusetts, 1978.

The primary problem facing the beachgoer is access to suitable coast, whatever the form of recreation. The access problem discussed for boating applies generally; the beachgoer needs transportation, parking, and right-of-way at present beach sites. Generally, demand for beach areas exceeds supply in the prime vacation season, summer. States are attempting to meet this problem by acquiring properties and rights-of-way or easements at beach sites.

### **Ocean Disposal of Wastes**

The ocean has long been looked to as a repository for wastes generated by consumer-oriented societies. The past several decades have seen increased use of the ocean as a waste repository. In the U.S., ocean dumping averaged about 1.7 million tons a year in the period from 1949 to 1953. This figure grew to an average of 7.4 million tons a year from 1964 to 1968 (28). This increased use was caused by: demographic shifts to coastal areas; concomitantly increased land values in the coastal zone; growth in siting of industrial and energy facilities in coastal areas; expansion of marine transportation and the demand for port and harbor improvements; and the use of more advanced sewage treatment techniques, resulting in the generation of large volumes of sludge, much contaminated with toxic residues. This discussion focuses on sewage sludge and dredge spoil dumping, because of their prominence in the ocean dumping controversy.

The wastes piped into coastal waters and transported for ocean disposal, more commonly referred to as ocean dumping, cover a broad spectrum of societal by-products. They include sewage sludge, dredged material, industrial wastes, nuclear wastes, construction and demolition debris, and brine disposal from the activities of the National Petroleum Reserve in the Gulf of Mexico.

### **Background**

President Nixon first brought serious political attention to the practice of ocean dumping in 1969. At that time, the President directed his Council on Environmental Quality (CEQ) to study ocean dumping and present a report, together with legislative and administrative recommendations, on this subject.

A CEQ report entitled "Ocean Dumping - A National Policy," issued in 1970, offered several recommendations which were subsequently enacted into law. Among them were an ocean dumping permitting program and site designation process, to be administered by EPA, and the immediate or phased cessation of ocean dumping of sewage sludge, solid waste, polluted dredge spoils, high-level radioactive waste, and toxic industrial wastes. Further, the CEQ recommended regulation of the dumping of unpolluted dredge spoil, construction and demolition debris, and other inert materials, to prevent environmental harm to coastal and estuarine areas. CEQ also highlighted the need for an expanded research program to determine the environmental and health effects of ocean dumping on both the ocean and people.

Shortly after the CEQ report was issued, domestic and international attention to ocean dumping heightened. In late 1972, representatives of 92 nations gathered to deliberate on, and subsequently adopt, the International Convention on the Prevention of Marine Pollution by the Dumping of Wastes and Other Matter, commonly known as the Ocean Dumping Convention. The Convention attempts to prohibit, internationally, the dumping of selected persistent toxic materials, high-level radioactive wastes, and biological and chemical warfare agents. With the consent of the Senate, the President signed the Convention in 1973. The Ocean Dumping Convention came into force in August, 1975.

Domestically, the U.S. Congress had already begun to focus attention on ocean dumping. The 92nd Congress, acting on an Administration bill submitted in 1971, passed the Marine Protection, Research, and Sanctuaries Act (MPRSA) which President Nixon signed into law in 1972. The 93rd Congress amended the MPRSA to bring it into conformity with the Ocean Dumping Convention.

This Act and the Federal Water Pollution Control Act (Clean Water Act) are the principal statutes governing the dumping or discharge of wastes into both inland and offshore waters. The MPRSA is composed of three titles. Title I establishes both the permit and regulatory programs of EPA and the U.S. Army Corps of Engineers. Title II establishes an ocean dumping research program administered by NOAA, in cooperation with EPA and the Coast Guard. Title III

establishes the marine sanctuaries program which is administered by NOAA in consultation with the Departments of the Interior, Defense, Transportation, and State, and with the Administrator of EPA.

The MPRSA divides regulatory authority for ocean dumping between EPA and the ACOE. EPA issues regulations and permits for the dumping of non-dredge material, while the ACOE regulates and permits dredge spoil dumping based upon EPA discharge criteria. The MPRSA has sole jurisdictional authority over wastes barged for ocean dumping beyond the territorial sea; within the territorial sea, this authority is shared with the Federal Water Pollution Control Act (FWPCA). The FWPCA is the sole statute governing sewage effluent and industrial waste discharge via pipelines into all waters inland and offshore of the U.S. The FWPCA also governs the disposal of dredge material into inland waters. A statutory overlap exists in the territorial sea.

The MPRSA was amended in 1977 to mandate a December 31, 1981 deadline for the cessation of ocean dumping of harmful sewage sludge, defined as that "which may unreasonably degrade or endanger human health, welfare, amenities, or the marine environment, ecological systems, or economic potentialities" (P.L. 95-153). Congress took this action because of a loss of faith in EPA's ability to stop municipal sewage sludge dumping and because EPA had sanctioned the ocean dumping of materials which failed its own criteria (67). The December 31, 1981 deadline also applied to harmful industrial waste ocean dumping.

The 1981 deadline has now passed, but ocean dumping continues. Several factors have combined in the last two years to cause reappraisal of the national ocean dumping policy expressed by the MPRSA, chief among them a 1981 National Advisory Committee on Oceans and Atmosphere (NACOA) report on ocean waste disposal, a recent district court decision against EPA, and a change in Administration philosophy.

In January, 1981, NACOA issued its review of ocean waste disposal in a report entitled "The Role of the Ocean in a Waste Management Strategy." The report concluded, as did Congress in its 1982 reauthorization of the MPRSA, that

national waste management had historically been approached on a medium-by-medium basis. NACOA contended that this medium-specific approach precluded the careful balancing necessary for national planning. The basic thrust of the report was that EPA's no dumping permit policy should be reversed, and the oceans evaluated with other disposal media to determine which minimized health, environmental, and economic costs. NACOA urged that this change in U.S. waste management strategy be accompanied by a sound scientific research and monitoring program.

In a recent court case, New York City v. EPA, the U.S. District Court for the Southern District of New York ruled that EPA could not enforce the 1981 deadline by forbidding New York City from dumping its sewage sludge into the ocean until the city had an opportunity to prove that this dumping would not unreasonably degrade the marine environment.

Finally, the 1981 change in Administrations brought a new perspective on regulatory affairs. As indicated by Executive Order 12291, one of the first acts of the current Administration, economic costs are to be evaluated more carefully when Executive agencies sponsor new regulations. Technological developments have lagged behind early estimates, and it is now clear that, on an economic basis alone, ocean disposal is less expensive than alternative land disposal or incineration techniques.

These three factors have together generated an increased interest in the use of the oceans for waste disposal. The 1981 deadline still stands for ocean dumping that is considered harmful. The status of the criteria by which damage potential is to be judged is uncertain in the wake of the NYC v. EPA case. By 1987, NOAA predicts per-year sewage sludge dumping will increase from 7 million wet tons to 17 million wet tons in the Boston-Washington, D.C. corridor alone (67).

Ocean incineration is expected to increase in the future, particularly in waters adjacent to major industrial centers producing toxic organic wastes, principally organohalogenes. There are no approved industrial waste dump sites in the Gulf of Maine. As mentioned previously, under the MPRSA dumping of toxic



wastes would be forbidden by the 1981 deadline. Pressure is mounting, however, to find an acceptable means of disposing of these toxic wastes. EPA, in December, 1981, issued a final environmental impact statement (FEIS) as part of its designation process for a North Atlantic incineration site for the Mid-Atlantic states. Though a New England site southeast of Georges Banks was considered, it was rejected in favor of a site approximately 140 n. m. east of Delaware Bay. Additional site selection will depend largely on the demand for this technology in the overall national and regional waste management strategy. The transportation of these burnable wastes to any North Atlantic offshore incineration site will require careful planning.

Two factors of coal trade and consumption will also bear on the future volumes of wastes disposed of at sea. As discussed in the Chapter 3 Ports section, the demand for export steam has risen sharply in recent years, and shippers have increased vessel size, and concomitantly, draft, in an effort to achieve economies of scale. Vessels plying other trades are also increasing in size and draft. These design changes have created a need for numerous maintenance, improvement, and new dredging projects in ports and harbors wishing to capture a share of the changing market. These projects require disposal sites for the dredged material, and could eventually exceed the carrying capacity of current disposal sites. Four marine dredged material disposal sites currently exist in the study region. They are located within the territorial sea at sites off Newburyport, Massachusetts and Cape Arundel, Maine, and beyond the territorial sea off Portland, Maine and Marblehead, Massachusetts.

Domestic coal consumption will increase in the next 20 years, displacing consumption of more expensive imported oil. It has been estimated that 200 to 300 million tons per year of the by-product of coal combustion, called fly ash, will eventually require disposal. For reasons touched on in this section, ocean dumping will probably be an attractive alternative for fly ash disposal.

The waste products of our society that will require disposal, and are of concern to the northern New England region for the purposes of ocean dumping, include sewage sludge, dredge spoil, fly ash from coal combustion, and toxic organic waste capable of incineration.

## Prospectus

The questions regarding ocean dumping are not now if, but how much, and how will it be managed? Future directions in ocean dumping are likely to include six considerations: multi-media examination of waste disposal alternatives; user fees for ocean disposal; recycling of more waste components; legislative clarification; alternative technologies for both transport and disposal of wastes into marine waters; and decentralization of permit authority based on broader national standards.

As noted by both NACOA and the House Merchant Marine and Fisheries Committee, costs associated with land disposal options such as landfill or deep well injection are likely to rise over the next twenty years, favoring expansion of the ocean dumping alternative. The costs associated with each disposal option must be evaluated on a composition specific bases, and in accordance with regional economic, environmental, and political concerns.

Fiscal austerity in the governmental sector is not merely a passing fancy and the concept of user fees for ocean disposers will gain favor as a means of internalizing more of the costs associated with waste production. The U.S. 97th Congress has been investigating the application of user fees in selected ocean waste disposal categories to cover associated governmental administrative costs. These fees would cover such activities as permit processing and site designation, and possibly monitoring. It is unlikely, however, that a broad based consensus favoring user fees will develop unless the concept is applied equitably to all ocean dumping categories.

Recycling of individual waste constituents will gain popularity as costs associated with disposal and access to raw materials escalate, and as these costs drive the requisite technologies forward. Necessity may be the mother of invention, but cost is often the companion of necessity. The recycling option, unless legislated, will develop more slowly than others and closely parallel the economies it accrues. Until recycling becomes viable economically, less expensive options such as dumping will be utilized.

Legislative clarification will become increasingly imperative as the demand for reduced administrative costs gathers force. NACOA has attributed the overlap between the MPRSA and FWPCA in territorial sea dredge spoil disposal jurisdiction to Congressional committee jurisdictional overlap (28). This type of redundancy is unnecessary, but requires Congressional reorganization to correct. Change from the status quo in either Congress or the Executive branch, historically, has been a slow process. Further, Congress will need to promulgate coordinated goals and objectives in a national waste management strategy to eliminate much of the current overlap and uncertainty.

As environmental concerns constrain particular modes of transport and disposal of wastes in the ocean, and as disposal costs increase, alternative technologies for handling these wastes will be explored. Among the alternatives under consideration are dewatering of sewage sludge to decrease transport costs (sewage sludge averages about 95 percent water), different packaging and emplacement techniques, such as compaction, burial, or rapid dispersion, and advances in at-sea incineration techniques for toxic wastes.

Finally, as both NACOA and the Interagency Committee on Ocean Pollution Research, Development and Monitoring (COPRDM) suggest, study and waste management option selection may be more efficiently and expeditiously directed at the regional level. Oceanographic, geologic, hydrologic, and atmospheric conditions vary greatly along the coastal United States. Sewage sludge disposal through ocean outfalls may be more appropriate in one area, by virtue of dispersion factors, and ocean dumping more appropriate in another. A strictly national standard, without regional waiver, will not allow each region to make best use of its options in meeting national objectives. National programs tailored to regional realities can offer broader public input, increased cost efficiency, and administrative ease not available to national administration.

### **Energy Development**

Within the Gulf of Maine study area, energy is generated primarily by burning of the fossil fuels: oil, natural gas, and coal. Some additional power is supplied by nuclear and hydroelectric power generating stations. This study

reviews only existing or near-term potential energy-associated activities and projects with a marine component. These include: offshore exploration for hydrocarbons, their transport, and contingency planning; the increased use of coal as an energy feedstock; and the potential of tidal power. Uses not reviewed, because they are unlikely to occur within the Gulf of Maine region during the timeframe of this study, are floating nuclear power stations, ocean thermal energy conversion projects, and wave power conversion.

### Oil and Gas

Although at present no tracts in the *Gulf of Maine* have been offered for oil and gas leasing, it is possible that the area may receive some industry interest in the future. Blocks in the nearby Georges Bank area have been leased (Federal OCS Oil and Gas Lease Sale 42, held in December, 1979) and others in the same area will be offered for sale in October, 1982.

In the first phases of offshore exploration, seismic survey vessels evaluate the seabed for an area's potential for formation of hydrocarbons. This activity is carried out with use of cables, booms, and hydrophones. During seismic exploration, the vessels are stabilized by anchors, held in place by long chains. The dragging of seismic equipment, along with the anchors and their chains, is a potential hazard for commercial fishing, as it may damage nets and traps. The conflict between seismic surveying and commercial fishing operations is not a new one, nor is it confined to the New England region.

In the event of a commercial hydrocarbon find, the oil companies determine the most economical method for transporting the oil and/or gas to shore. If the find is large, it will justify construction of a subsea pipeline to shore. In the event of a small find, crude oil may be carried to shore on barges or tankers loaded at the platform. Other factors, such as distance from the field to onshore refineries, enter into this decision.

Recently, the use of pipelines to carry hydrocarbons to shore rather than tankers, has been favored. This is primarily due to considerations of safety and economics. There are a number of tradeoffs involved in using either mode.

Tankers are more available and flexible than pipelines. Pipelines are initially more expensive, but are safer than tankers, particularly in relation to oil spills, and are less influenced by weather conditions. On the other hand, pipeline construction has a disruptive impact on the ocean bottom and on some types of fishing. Overall, however, pipelines probably have less adverse environmental impact than tankers.

Should a future lease sale offer Gulf of Maine tracts, it is likely that the leases will carry stipulations requiring the use of subsea pipelines whenever economically and technically feasible. In addition, the operators will be required to bury pipelines to minimize the possibility of interference of the structures with fishing operations.

Obviously, the shore site in the straightest possible line from the offshore production location will be the preferred location for a pipeline landfall. However, the landfall location must also allow the creation of potential terminals for storage tanks and processing plants. This does not necessarily mean that these facilities require direct access to the coast. From the landfall, pipelines can continue several miles inland to tank farm/processing areas. The closest landfall area may be unsuitable if it requires a route crossing major shipping lanes, large stretches of shallow water or wetlands, or national seashore. In general, pipeline landfalls should be located so as to avoid conflicts with recreational or environmentally sensitive areas, or residential development. Landfalls will be least disruptive in areas already developed for industrial uses.

If a hydrocarbon find were below some economically-determined threshold, say less than 300 million barrels it might be more favorable to send the crude in tankers to an easily accessible marine terminal located near a new or existing refinery (10).

Crude oil tankers vary in size from 10,000 to 70,000 dead weight tons (DWT) for coastal tankers, to 100,000 to 250,000 DWT for supertankers, to 250,000 to 400,000 DWT for very large crude carriers (VLCC's). Because the depths of channels and harbors in New England generally do not exceed 35-40 feet, most tankers calling at ports in the region are about 25,000 to 65,000 DWT (29).

A marine terminal could be necessary for offshore development for several reasons. If there are no refineries in the area, the crude oil must be loaded offshore and shipped to another location for processing. If a refinery does exist, the refined product requires loading facilities for tankers or barges before distribution to surrounding areas. Tankers rather than pipelines may also be used to transfer oil from offshore to onshore facilities if the distance from well to shore is great, or if other physical conditions prevent pipeline construction.

Marine terminals may be either shoreside or offshore. Offshore terminals are fixed or floating, and can serve much larger tankers than shoreside terminals at conventional ports. Offshore terminals also reduce the probability of accidental collisions and groundings, because they remove tankers from busy harbor areas.

Davisville, Rhode Island, which has served as the onshore support base for two Continental Offshore Stratigraphic Test (COST) wells drilled on Georges Bank and for drilling operations conducted in the mid-Atlantic offshore region, is also supporting exploration of Lease Sale 42 tracts. Because of its strategic location and established nature, Davisville will probably serve as the staging base for any initial activities associated with an offshore oil and gas search in the Gulf of Maine.

The following is a brief summary of the attitudes of the North Atlantic coastal states to offshore oil and gas activities.

**Massachusetts.** The Commonwealth of Massachusetts was one of the major plaintiffs in the litigation surrounding Lease Sale 42. The prime interest of the State was the protection of the valuable Georges Bank fisheries. Up to 50 percent of the total Massachusetts landings, by weight, are taken from Georges Bank (14). The State has consistently worked to protect and preserve this resource by recommending that mitigating measures be incorporated as part of any OCS lease sale in the area. These measures include a Fishermen's Contingency Fund, the Best Available and Safest Technology (BAST) standards,

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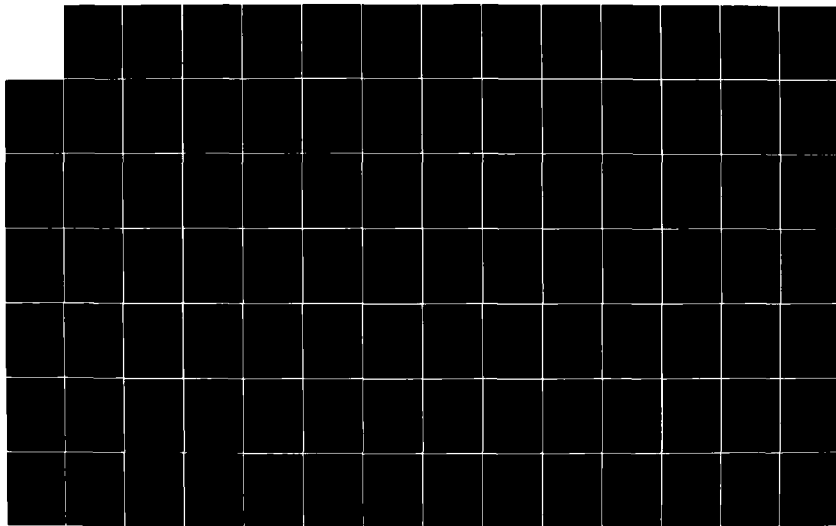
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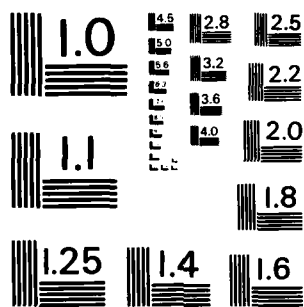
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and marking of equipment on the drilling rigs. When these requirements were not complied with fully, Massachusetts challenged the legality of Lease Sale 42 in court. The suit continued for 23 months, and was finally settled in December, 1980. Most of the concerns voiced in the lawsuit were resolved by the agreement reached in the final court settlement.

The Barnstable airport, near Hyannis, served as the helicopter base for COST well drilling operations in the Georges Bank area and as the location for the U.S. Geological Survey's North Atlantic District Office. This airport was in the past and probably will continue to be the refueling stop for helicopters operating out of Davisville (14). Two other possible refueling stops are Otis Air Force Base, in Barnstable, and the airport on Nantucket Island. Refueling stops are required because of the distance from Davisville to the Georges Bank area.

Two other Massachusetts cities, Fall River and New Bedford, have sought to support OCS activity in the Mid-Atlantic as well as planned offshore activities in the North Atlantic. Fall River conducted a study that identified potential sites for OCS-related onshore development and predicted what the impacts of such development could be. The study identified 159 acres of waterfront area that could be developed for OCS support businesses. However, neither Fall River nor New Bedford is expected to be used as a support base in the foreseeable future, since the necessary facilities already exist at Davisville.

The Massachusetts Coastal Zone Management Program was approved in April, 1978. The leading State agency is the Executive Office of Environmental Affairs, which administers most of the regulatory programs associated with the program. The key laws include the Wetlands Protection Program, the Waterways Program, the Wetlands Restriction Program, the Ocean Sanctuary Program, and Energy Facility Siting. New regulations for each program were promulgated in 1978. The Wetlands Protection Program is jointly administered by the State and local conservation commissions. It addresses such major issues as coastal erosion, public access, and critical areas planning.

The Executive Office of Environmental Affairs also administers the Coastal Energy Impact Program in Massachusetts. The State faces energy

impacts from several activities. The transportation, transfer, and storage of oil and gas will have a significant effect on Massachusetts' coastal zone. More than 220 million barrels of oil and 96 million gallons of gas are now stored in tanks in the coastal area. The principal concerns are safety and the consequences of oil spills. Existing oil-fired electrical generating facilities of various types located in or affecting the coastal zone are converting to coal. Environmental impacts, especially those affecting air and water quality, are a prime concern. The Atlantic states are just beginning OCS offshore and onshore activity, which could result in significant environmental, recreational, and economic impacts. Exploration drilling has begun on Georges Bank. Lease Sale 42 took place in 1980, and Lease Sale 52 is tentatively scheduled for 1982. Virtually all Massachusetts state fisheries may be affected (49).

**New Hampshire.** New Hampshire has traditionally encouraged OCS oil and gas exploration, provided that fishery, recreational, and environmental resources are adequately protected. The State has prepared a number of studies assessing the feasibility of siting OCS onshore facilities along its coast. However, since its coastline is approximately 150 miles from the nearest leased tract on Georges Bank, it is unlikely that industry will choose to operate from a New Hampshire location. More desirable sites can be found in Rhode Island and Massachusetts.

New Hampshire's coastal program is administered by the Office of State Planning, which also administers the Coastal Energy Impact Program within the State. New Hampshire is currently facing impacts from several types of energy activities, especially the transportation, transfer, and storage of hydrocarbons. Most of the 2.8 million tons of hydrocarbon products that come through the Piscatauga River/Portsmouth Harbor consist of oil, and oil spill potential is great. Oil traffic has already caused a significant loss of recreational resources along the Piscatauga River. The environmental consequences of nuclear power plants are expected to continue as the Seabrook plants begin operation in 1984 and 1988. Power plant conversions from oil to coal will produce impacts from transportation, transfer and storage of coal, as well as fly ash disposal. Lesser

impacts are expected from OCS activities and projects related to alternative energy sources.

A Final Environmental Impact Statement (FEIS) on the proposed Coastal Program Ocean and Harbor Segment was released on April 23, 1982. New Hampshire's coastal zone management program for this segment of its coastal zone received Federal approval in June, 1982 (49).

**Maine.** Maine's stance on Lease Sale 42 was that it should be conducted only when all possible precautions had been taken to ensure that oil and gas development would not harm the fisheries on Georges Bank. The state has actively sought, throughout the leasing process, to include these provisions as part of the lease sale requirements.

Maine has the second largest fishery, after Massachusetts, in the North Atlantic region. This is a valuable economic resource for the State which has experienced a depressed economy for the last decade. Only a small portion of Maine's landings come from Georges Bank. Maine fishermen generally work close to shore, from smaller vessels. Larger boats fish farther offshore, predominantly in the Gulf of Maine and on smaller banks northeast of Georges Bank. However, Maine contends that a large oil spill on Georges Bank could create a negative impact on the State because it would force Maine fishermen to fish State waters more intensively and affect in turn the State's regulation of its own fisheries (14).

Maine plans no onshore support facilities for OCS exploratory activities because closer sites are available in southeastern New England. If an additional support base were required in New England during future OCS exploration and development operations, Portland, Maine, would be a possible candidate, since it is already a large oil import harbor, and has a marine terminal and an oil pipeline to Canada. The State has recently completed a design for an oil spill debris-storage facility in Portland. Oil spill impact studies have also been conducted for Casco Bay and the southern coastline of Maine.

The Maine coastal management program was approved in September, 1978. Maine's coastal energy impact program is administered by the State Planning Office. Energy developments anticipated to produce significant impacts on the Maine coast between now and 1985 are: OCS oil and gas exploration; oil transportation, storage, and refining; oil to coal conversion of electrical generating plants; and alternative energy prospects (49).

#### Oil Spills And Contingency Planning

Most oil polluting incidents in and around the United States occur in areas of high population density and shipping activity. One study (U.S. Department of Transportation, Coast Guard, "Polluting Incidents in and Around U.S. Waters, 1970-1971") indicated that between 75 and 90 percent of oil spill volume is in inland and coastal waters. The oil introduced into coastal and inland waters comes from a variety of sources--offshore oil spills, vessel collisions and groundings, pipeline leaks, natural seeps, bunker fuel discharges, etc. A more complete breakdown of the weights of oil and their precise sources can be found in the study cited above.

**Contingency Planning at the National Level.** The National Oil and Hazardous Substances Pollution Contingency Plan was developed in compliance with the Water Quality Improvement Act of 1970, and incorporated into the Federal Water Pollution Control Act (FWPCA) Amendments of 1972. The plan seeks to provide for efficient, coordinated, and effective action to minimize damage from oil and hazardous substance discharges, including containment, dispersal and removal. Including the Annexes and regional plans, it provides for:

- o assignment of duties and responsibilities;
- o establishment and identification of strike forces and emergency task forces;
- o a system of modification, surveillance, and reporting;
- o establishment of a National Center to coordinate and direct operations carrying out this plan;
- o a schedule of dispersant and other chemicals to treat oil spills;
- o enforcement and investigative procedures to be followed;

- o directions on public information release; and
- o instructions covering on-scene coordination.

In short, the plan creates a structure for coordinated, integrated response by those Federal agencies to which it assigns responsibilities. It includes advance preparation as well as actual implementation: the primary goal is to be prepared to respond whenever and wherever a spill might occur.

Federal departments and agencies charged with implementing the plan are the Departments of Agriculture, through the Forest Service; Commerce, through NOAA; Defense, through the ACOE; Interior, through the MMS and the Fish and Wildlife Service; Transportation, through the Coast Guard; and the EPA. The Federal responsibility for actual oil spill cleanup is assumed by the EPA and the U.S. Coast Guard, through an On-Scene Coordinator. The Coast Guard usually deals with spills that occur offshore.

The plan establishes both national and regional response structures. The person immediately responsible for responding to an offshore oil spill, the On-Scene Coordinator, is a Coast Guard officer, predesignated for each coastal region and subregion of the U.S. In the event of a spill the Coordinator ensures that the person causing the spill is aware of his or her responsibility for containing, cleaning up, and disposing of the polluting oil, and ascertains that the person is taking adequate action. If the responsible person is taking adequate action, the Coordinator observes, monitors progress, and provides advice and counsel as may be appropriate. If the responsible person cannot be identified, does not act promptly, or does not respond adequately, the Coordinator must take over. The government's own resources are employed, or private resources are contracted for. The responsible party, if known, is billed for the cost incurred; if the party cannot be identified, the costs are paid from the revolving fund established by Section 311 of the FWPCA Amendments of 1972. This Section also requires that the plan include a system whereby the State or States affected by a discharge of oil or other hazardous substance may act to remove the discharge and be reimbursed for reasonable costs.

The plan provides for establishing strike forces trained to provide the necessary containment, cleanup, and disposal services. A National Strike Force has been established, with three regional Strike Teams. The one closest to the North Atlantic region is the Atlantic Strike Team, in Elizabeth City, North Carolina. Besides acting in an advisory capacity to the On-Scene Coordinator, the National Strike Force through its Strike Teams assists in cleanup operations during a major spill determined to be a Federal cleanup responsibility. In the event of a catastrophic spill, all equipment of the National Strike Force could be mobilized by the On-Scene Coordinator.

The First U.S. Coast Guard District in Boston maintains equipment for harbor cleanup and, in the future, may maintain open sea cleanup equipment (for example, skimming barriers) from the Atlantic Strike Team stockpile for offshore operations. If such equipment is maintained in Boston, the Coast Guard could have it on site in the Georges Bank/Gulf of Maine area 10 to 15 hours after notification of a spill (52).

**State Oil Spill Contingency Planning.** The State of Massachusetts has a formal contingency plan that involves contracting with private companies for cleanup. In addition, under the Massachusetts Oil Spill Contingency Planning Program, State, county, and local officials have joined forces to develop regional oil spill contingency plans that include trained Local Response Teams and the purchase of oil spill containment equipment for local use in response to small, inshore spills. This plan is in line with the revised National Contingency Plan that provides for development of local contingency planning, with special emphasis on environmentally sensitive areas.

The State of Maine administers an extensive cleanup contingency plan, and New Hampshire also has an ongoing oil spill prevention program.

There are small cleanup cooperatives in Boston and Portsmouth Harbors and along Long Island Sound to deal with nearshore spills associated with port facilities.

**Industry Oil Spill Contingency Planning.** Industry has also established a number of response cooperatives. Within the North Atlantic region, oil spill containment and cleanup planning and implementation are provided (along with Federal agencies, the States, and private contractors) by the industry cooperative, Clean Atlantic Associates (CAA). CAA is based at Davisville, Rhode Island. Made up of 15 companies presently holding offshore oil and gas leases in the Atlantic, it is open to additional companies that may lease offshore acreage in the future. The primary objectives of CAA are providing and maintaining oil spill containment and cleanup equipment for use by member companies and helping to ensure the availability of trained personnel for cleaning up spills.

OCS Operating Order No. 7 (promulgated by the U.S. Geological Survey, now Minerals Management Service) requires that prior to offshore exploration operators must have an approved contingency plan that ensures the availability of spill containment and cleanup equipment and trained personnel. This equipment is to be maintained at or near the drill site or onshore within the area, as determined by the MMS Deputy Minerals Manager on a case-by-case basis. Primary cleanup responsibility for a spill related to OCS oil and gas operations rests with the operator.

For operations in the Lease Sale 42 area, the Minerals Management Service requires industry to provide a maximum six-hour response time capability in deploying the offshore equipment. Additional cleanup equipment from Davisville can be loaded and on site approximately 18 to 20 hours after notification of a spill (52).

Although the technology for mitigating oil spills has advanced in recent years, and although the National Contingency Plan and the regulatory practices of the MMS provide some assurance of response within the limitations of existing technology, the physical circumstances surrounding a spill--the rate and volume of oil spilled, sea state, currents, and weather conditions--may severely limit the effectiveness of cleanup operations. Each of the available technologies is effective or ineffective under various sets of circumstances. The most difficult operating conditions for cleanup are high seas, storms, rapid currents, ice, and problems posed by the rapid formation of water-in-oil emulsion. Thus, at-sea

response is likely to be only partially successful in preventing shoreline pollution from a major spill near the coast.

### Coal

In the 1970's, Executive and legislative attention to growing U.S. dependence on foreign oil supplies increased dramatically. This dependence was highlighted by the Arab oil embargo in 1973-74, and again by shortages on the world market (due largely to cuts in production in Iran during its revolution) in 1978-79.

National Energy Policy Plans I and II, promulgated subsequent to Title VIII of the U.S. Department of Energy Organization Act (P.L. 95-91), placed heavy emphasis on replacing consumption of imported oil with domestic coal in the industrial and utility sectors. Additionally, several laws enacted in the 1970's give DOE authority to prohibit the use of oil or gas in new power production facilities and to promote conversion to coal for similar existing facilities.

In issuing the National Energy Policy Plan III in 1981, the Reagan Administration indicated that it would not rely on its prescriptive powers to force the conversion from oil and gas to coal, but would instead allow market forces to determine the mix of energy feedstocks utilized in the industrial and utility sectors.

Several factors contribute to the suggestion that New England's use of coal, particularly in the industrial and utility sectors, will increase substantially from recent levels. Of prime import among these factors is the cost comparison, per million BTU, of coal and imported oil delivered to New England. The New England River Basins Commission, before its dissolution in 1981, reported that compared on this basis the cost of coal was less than one-half that of imported oil. Further, prior to the 1960's, when the availability of inexpensive oil for power production encouraged conversion from coal to oil, New England ports were engaged in lively coastwise coal trade. Much of the distribution infrastructure developed in this period remains in place, though in need of rehabilitation.



Most of the coal consumed in New England originates in the Appalachian region and is distributed through Mid-Atlantic ports. Though congestion in these coal ports was common in 1980-81, this problem may have little effect on colliers involved in contemporary coastwise trade, for two reasons. The "Donnelly Amendment" (P.L. 96-387) guarantees U.S. flag vessels priority at these same ports. Secondly, many East Coast coal ports are currently gearing up to meet the demands of the export steam coal trade. These port expansions, together with priority berthing for domestic vessels, bode well for re-establishing the transportation network in the coastwise trade of coal. Moreover, a supplement to National Energy Policy Plan III states that though coal is projected to be the key transitional energy source in the U.S. for the next 20 years; only under a case of extreme demand would production or transportation infrastructures become a serious constraint.

Tables 7 and 8 provide two projections of the nationwide demand for coal, by sector, to the year 2000. With the paucity of readily available alternative energy sources, New England will probably increase its use of coal proportionally.

**Table 7. Coal Demand Forecasts by Sector, High Growth-Rate Scenario**

Sector	Demand (millions of tons of coal equivalents)				
	1978	1985	1990	1995	2000
Industrial	142	240	300	360	390
Utilities	481	680	990	1,100	1,170
Synfuel	0	0	40	130	330
Exports	41	80	90	100	110
Total	664	1,000	1,420	1,620	2,000

Source: U.S. Department of Energy; Energy Technologies and the Environment: Environmental Information Handbook, June, 1981 p. 11.

**Table 8. Coal Demand Forecasts by Sector, Slower Growth-Rate Scenario**

Sector	Demand (million tons of coal equivalents)				
	1978	1985	1990	1995	2000
Industrial	142	210	250	280	290
Utilities	481	640	760	770	830
Synfuels	0	0	30	89	230
Exports	41	80	80	100	110
Total	664	930	1,130	1,240	1,460

Source: U.S. Department of Energy; Energy Technologies and the Environment: Environmental Information Handbook, June, 1981 p. 11.

The regulatory atmosphere will also affect substitution of coal for oil in New England. This atmosphere will be largely determined by the environmental and social liabilities of coal production and preparation, transportation, storage and combustion, and combustion residue waste disposal.

Each of these operations may generate unique environmental and social impacts. Potential problems with the increased utilization of coal include: groundwater contamination and/or depletion arising during the production/preparation phase; air pollution from particulates, and more notably acid precipitation from the storage and combustion phase; congestion at various chokepoints in the transportation operation; facility siting; and waste disposal.

Each of these problems, except those arising from production and preparation, impinges on New England, but our immediate concerns in this study are those affecting the process of ocean management. Ocean management planning considerations necessitated by an increase in coal combustion include: port, harbor, and channel planning and logistics; energy facility siting in the coastal zone; increased barge density in the coastwise trade between New England and Mid-Atlantic ports; and multi-media examination of combustion residue waste disposal sites in the coastal zone and offshore.

### Tidal Power

Small tide mills have existed in Europe since the Twelfth Century. The first U.S. tidal mill was built in Chelsea, Massachusetts, in 1734. The U.S. has two locations where tide ranges are great enough to support large conventional tidal hydroelectric power projects: the Cook Inlet region in Alaska, with a mean tidal range of 25.1 feet and the Cobscook-Passamaquoddy Bay region in Maine, with a mean tidal range of 18.2 feet.

Generally, a single pool tidal power project operates by opening flood gates in a trans-basin barrier during the rising tide. This fills the operating pool to near-high tide level. The flood gates are closed at high tide, and turbines begin power generation during the falling tide, when a differential head, created by uneven water distribution, exists at the embankment. The cycle is repeated at the next high tide. Tidal power projects thus provide non-continuous but regular electrical power which is used by utilities in meeting base load electrical demand.

The primary objective of the tidal power projects under consideration is a reduction of the region's (and nation's) dependence on foreign oil for energy generation. In New England, about 60 percent of the region's annual energy requirements are now met using oil-fired generating facilities. A tidal power project would displace oil-generated energy, reduce dependence on foreign oil, and keep U.S. dollars in the United States. Any tidal power plan would, of course, have to be economically, technically, environmentally, and socially acceptable.

The feasibility of constructing a large tidal hydroelectric facility in the vicinity of Passamaquoddy Bay at Cobscook Bay (near Eastport, Maine), or a smaller project at Half Moon Cove with Cobscook Bay, has been studied under the auspices of the U.S. Army Corps of Engineers (ACOE, New England Division, "Investigation of Tidal Power, Cobscook Bay Maine," 1980). Although early study findings indicated that the costs of such a project would outweigh the benefits, a later analysis, examining the life cycle costs and benefits, has concluded that

given price and supply instabilities of conventional power sources, a tidal power project could succeed.

Maine would be the primary area affected by a potential tidal power project. While it is not known how much energy a tidal power project would supply for Maine, it is reasonable to assume that a large percentage of such a project's energy would be used within the State.

If a tidal power project were built in the Cobscook Bay area, its social and economic impacts would be confined to certain geographical areas. Three impact areas were designated in the ACOE study: the construction impact area, the service impact area, and the regional impact area.

The construction impact area includes the communities of Eastport, Lubec, Perry, and Pembroke. Impacts in this area would result from the actual construction activities, including any land takings or the use of local roads to gain access to project sites. During construction, trucks and other construction vehicles and equipment could cause an increase in traffic and present those problems typically associated with a large influx of workers.

The service impact area includes those communities that might be chosen by construction workers for temporary residence. The communities of Calais, Eastport, Lubec, Machias, Perry, and Pembroke could be expected to bear the burden of this impact.

Washington County is considered to be the regional impact area. Regional impacts generally take the form of long-term economic changes. In the case of a tidal power project, Washington County would probably experience an increase in tourism, and possibly a slight stabilization in electric rates. If such stabilized energy rates became a reality, industry might be attracted to Washington County.

The environmental impacts of a tidal power project would depend upon the project's operational characteristics, such as pool size and mode of generating power. A tidal power project could result in major impacts on the marine,

estuarine, and riverine system in the project area. Any alterations to these systems would affect circulation, salinity, sedimentation, temperature, shoreline erosion, flushing, ice formation, and nutrient levels. Nutrient and sediment supply would be reduced in intertidal areas and beaches, which in turn would result in significant alterations in the estuarine biota.

Currents within and immediately outside the power pool would be significantly affected in terms of magnitude and direction. Further, it has been estimated that coastal tidal ranges as far south as Massachusetts could be influenced by a major tidal project in Maine. Planning studies for several tidal power projects in the Bay of Fundy, on Nova Scotia, show a worst case scenario of a six-inch increase in tidal amplitude as far south as Massachusetts, due to alterations in the hydrodynamics of the Bay of Fundy-Gulf of Maine region resulting from tidal capture and release at times outside the natural cycle.

### **Sand and Gravel Mining**

Construction aggregates are an important mineral commodity in the U.S. economy. Sand and gravel are used in construction of highways and in concrete and asphalt paving mixes for bridges, tunnels, and road bases, to name but a few commercial applications.

Sand and gravel account for the greatest volume of non-energy minerals mined annually in the U.S. Production from all sources in 1974 amounted to about 904 million tons, valued at \$1.6 billion, involving about 5,600 commercial operations. Based on Bureau of Mines figures, tonnages produced in the U.S. represent about 13 to 14 percent of the world's production (12).

The U.S. Bureau of Mines has projected an increased demand for sand and gravel of about three percent per year through the year 2000 (45). In many areas of the country, terrestrial deposits are being depleted, made inaccessible by urban expansion, or becoming too expensive because of increased land values. The mining of these deposits has also been restricted in the past by legislation, and constrained by high transportation costs from remote locations. According to some estimates of resources versus projected demands, economic land sources

of sand and gravel would be depleted by the year 2000 if the present level of demand is sustained (12). Thus, economic pressures, coupled with predicted growth demand, make it desirable for industry to seek new sources of sand and gravel that are economically competitive, where the mining will have an acceptable impact on the environment.

Fortunately, substantial deposits of sand and gravel appear to exist in the submerged lands of the continental margin, including the coastal zone and the Outer Continental Shelf. A 1975 report hypothesizes that U.S. reserves of sand and gravel might be increased by a factor of up to 25 if seafloor deposits are considered (12). The following table shows estimates of the resources of sand and gravel in the Gulf of Maine area.

**Table 9. Sand and Gravel Resources in the Gulf of Maine**

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<u>Location</u>	<u>Quantity Estimated</u>
Maine	94 million cubic meters
Massachusetts Bay	44 million cubic meters
Rhode Island	108 million cubic meters
New England (sand)	450 billion metric tons

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Source: Proceedings of the Marine Minerals Workshop, p. 31.

Deposits of sand and gravel in the coastal zone could theoretically find markets in the large urban centers located in coastal areas. At present, sand and gravel mining operations are restricted to a few locations, such as coastal estuaries and inland waters. Although industry interest in many offshore areas has been high, public protest has led to dredging moratoria in most coastal states. In many cases the restraint stems from a lack of understanding of environmental effects, the nature and extent of which have yet to be scientifically evaluated.

Virtually no sand and gravel aggregate is presently obtained for commercial purposes from seafloor deposits, although some small operations

exist in the New York/New Jersey area and in San Francisco Bay. Sand in these areas is dredged for nearby bay fill operations.

#### Federal Leasing of Sand and Gravel

On January 19, 1982, Secretary of the Interior James Watt, as part of his national strategic minerals policy, announced approval of a new program for hardrock mineral leasing activities in the U.S. offshore areas (53). This program, the first since Congress authorized such mineral activity in 1953, will permit exploration and development of a wide variety of mineral resources located throughout all U.S. offshore areas. Mr. Watt was quoted as saying, "We are initiating a new program to offer areas never before considered for competitive leasing--areas potentially valuable for hardrock mineral deposits such as...sand and gravel."

Leasing of areas in the Gulf of Maine under Federal jurisdiction will be considered only in response to industry expressions of interest in exploiting the mineral potential of these areas. No near-term actions are anticipated (7).

#### State Sand and Gravel Mining Operations

**Massachusetts.** The state of Massachusetts has strong environmental laws prohibiting any sand and gravel mining whatsoever in the nearshore and offshore areas. For this reason, the extensive offshore deposits will not be developed in the near future, if at all.

**New Hampshire.** Although New Hampshire has considerable sand and gravel resources in the nearshore and offshore areas, the State also has vast, accessible resources on land, obviating the need for exploitation of the marine resources in the foreseeable future (5). New Hampshire has furnished sand and gravel for out-of state buyers, as well. For example, when restrictive laws in Massachusetts prevented excavation of its offshore sand and gravel for a project to lengthen Boston's airport runways, sand and gravel aggregate was brought from New Hampshire in rail cars.

**Maine.** Maine has considerable onshore supplies of sand and gravel, except possibly in the southern part of the State, where resources are being depleted. Persons or organizations wishing to extract hard minerals from Maine's submerged lands, must meet strict administrative requirements. First, the State must grant a lease for the submerged lands in question. Then the operator must obtain a water quality permit, as well as a coastal wetlands permit (in addition to that required by the ACOE). The existence of substantial onshore resources, coupled with the State's rigorous permitting process, makes extensive excavation of sand and gravel in the submerged lands off Maine unlikely (18).

### **Marine Research**

Prior to World War II, marine science was largely under the purview of universities, with most research carried out by a few small coastal laboratories used by university biologists and their students.

In the late 1920's, the National Academy of Sciences began focusing attention on the lack of significant marine research programs. In 1930, the Rockefeller Foundation granted some \$6 million for construction of oceanographic laboratory facilities. As a result of this endowment three major centers of ocean science were established: the Scripps Institution of Oceanography, the Oceanographic Laboratories of the University of Washington, and the Woods Hole Oceanographic Institution.

Until World War II, these three oceanographic institutions and the other, smaller laboratories were funded by endowments and donations from foundations and other private sources, supplemented by allocations from State university budgets. Federal marine research activities were limited almost entirely to survey, for mapping and charting, and fisheries investigations.

The situation changed during World War II, with the infusion of Federal money into marine projects with military applications. After the war, a Navy stet program initiated to provide support for research and development in areas



of Navy interest sustained the Federal involvement in marine studies. The availability of this funding made possible the rapid post-war growth in the marine science field.

Gradually, though, this funding tapered off, and the growth rate of the marine sciences declined in the early 1950's. In the late 1950's and the 1960's, marine matters gained renewed attention in an attempt to keep pace with perceived Soviet activities in oceanography.

Since 1970, a number of Federal actions have fostered better management and conservation of ocean resources. They are detailed with other significant marine events, in Appendix B.

Marine science endeavors are currently conducted by a number of organizations in myriad Federal departments, as well as by a multitude of independent agencies. The NOAA, within the Department of Commerce, operates the largest number of laboratories. Other agencies with a large network of labs performing research in marine science and technology are the Navy, NASA, DOE, and the U.S. Fish and Wildlife Service (FWS).

The Sea Grant College Program Act, which was passed in 1966, established the Sea Grant Program, based on the earlier Land Grant Program designed to promote agricultural research and development. From 1966 to 1970, the Sea Grant Program was administered by the National Science Foundation. In 1970, the program moved to the newly-formed NOAA, where it currently resides. NOAA's Sea Grant Program provides support for university-sponsored research. Sea Grant colleges are chosen on the basis of the quality and productivity of their programs in research, education/training, and marine advisory services. The Sea Grant Program maintains an advisory service at each Sea Grant college to disseminate information to users in the coastal community and fishing industry.

The Sea Grant colleges and institutions in the Gulf of Maine Region are:

Sea Grant Program, Massachusetts Institute of Technology, Cambridge, Massachusetts;

Maine Department of Marine Resources, Augusta, Maine;

Sea Grant Program, University of Maine, Orono, Maine;

Marine Advisory Service, University of New Hampshire, Durham, New Hampshire; and

New England Marine Advisory Service, New England Center for Continuing Education, Durham, New Hampshire;

#### Problems Facing Gulf of Maine Marine Science Centers

Funding is a major problem for the Sea Grant colleges and the continuation of their work. Shortfalls in funding, coupled with ever-increasing operating, maintenance, and fuel costs, have affected research carried out on large oceanographic research vessels. For example, the National Science Foundation (NSF), which supports a major portion of marine research, is currently funding 20 percent fewer scientists than in 1975. In early 1982, two of the 25 vessels in the University National Oceanographic Laboratory System (UNOLS) were laid up because of shortfalls in funding support (43).

Projected 1983 budgets indicate a continuation, if not acceleration, of this trend. Increased use of intermediate-size ships can ameliorate the current and anticipated decrease in large vessels, but their shorter endurance and range, and lesser capacity for working under severe weather conditions and gear handling capabilities, will constrain the types of research missions that can be carried out. Thus, for the next several years, the scientific community's ability to mount oceanographic cruises to remote areas and conduct large, multi-disciplinary expeditions will be limited by the scarcity of large vessel time.

Other problems concerning the marine scientific community are duplication of effort, and "working in a vacuum." The latter has been lessened over the years by advances in communication and improved information transfer. The former problem is gaining more attention in these difficult economic times. Scientists need to coordinate their efforts with others working in the same areas even more closely in order to maximize precious research dollars. Joint efforts of Sea Grant institutions are a current attempt at such sharing. Another mechanism is UNOLS, which arose from the reports of the Commission on Marine Science, Engineering, and Resources. UNOLS is intended to foster cooperative use of ships and facilities by marine science institutions.

UNOLS membership consists of institutions or laboratories that operate or use Federally-funded national facilities, including research vessels. It includes an advisory council made up of both operators and users to assure optimal use of Federally-supported facilities and access by scientists from all academic institutions. The Research Vessel Operators' Council, consisting of marine engineering personnel from ship-operating institutions, promotes ship operating and technical information exchange among members. The UNOLS staff is located at Woods Hole Oceanographic Institution. Funding comes from the National Science Foundation (NSF), the Office of Naval Research DOI, NOAA, DOE, and EPA (46).

### **Military Activities**

The oceans have long served as a medium for conducting military maneuvers and as a strategic resource for maintaining national security. Prior to the 1970's most U.S. ocean programs were associated with national security, including defense and intelligence. Security is maintained through an extensive worldwide network of satellites, underwater detection systems, planes, vessels, weapons, communications networks, command centers, personnel, research programs, strategic assessment, and policies.

To date, conflicts between defense-related ocean activities and other uses have been minimal. However, locating national security facilities and conducting operations within the relative obscurity of ocean space will become

more difficult, as will high-speed navigation on or below the ocean's surface, as the level of ocean use increases. In the future, the Commands of the Fleet Operating Areas must augment their efforts at coordinating defense activities with other ocean uses.

It is currently accepted policy that national security has priority over other interests and programs. But as other public and private interests develop, determining what qualifies as a national security interest will become less clear. For example, minerals exploration on the Outer Continental Shelf and the deep seabed may bear on future national security interests because of the strategic importance of those minerals. While national security activities will be subjected to closer scrutiny as they compete for ocean space and resources, in the event of conflicts they will continue to have priority.

The concept of "national security" is not clearly defined, and therefore may be cited in a broad range of contexts as a reason to limit or prescribe certain other activities. Much of the present structure of national security management is classified. The remaining portion of this description of military activities focuses on operation areas and their uses.

The Gulf of Maine is an important operating area and staging base for the military, primarily the Navy and Coast Guard. Designated portions of the water and air space of the Gulf of Maine region are used in such military operations as: training and testing for submarines, aircraft, and surface combatants; maneuvers; gunnery practice; monitoring and surveillance patrol; and ordnance disposal. Though the public is not restricted from using the space within these operating areas, every attempt is made to provide adequate warning where hazards may exist. Plate 7, in Appendix D, shows these operating areas and shore staging bases.

The U.S. Department of Defense designates ocean space as an operating area and controls specific military activities. The Gulf of Maine Operating Area is part of the Atlantic Fleet's Boston Operating Area, and is under the purview of the Commander in Chief of the U.S. Atlantic Fleet, Ocean Area Coordinator. The Commander of Submarine Group Two (SG-2) Naval Submarine Base, in

Groton, Connecticut, is the immediate control authority for the Boston Operating Area.

The SG-2 Commander is also responsible for overall coordinating of training services and area assignments, ensuring promulgation of Notices to All Mariners (NOTAMS) and hydrographic messages and information (HYDROLANTS) warning mariners navigating in the operating area, issuing schedules, prescribing necessary additional regulations, and coordinating requests from all units. The Commander is also the coordinator for the Submarine Exercise Area and for Variable Depth Sonar.

Local NOTAMS, issued on a weekly basis by the U.S. Coast Guard District Commander, notify mariners of military operations that may interfere with navigation. The Coast Guard Broadcasts marine information of immediate concern over various radio frequencies in the marine broadcast notice to mariners.

### Conclusion

The Gulf of Maine study area, as delimited at this chapter's beginning, has a strong and historic association with the ocean. Among the most important uses of the coastal and marine areas of this region are commercial fisheries, maritime commerce, and tourism and recreation. Other less visible but still historic uses of the region include ocean dumping, scientific research, and military activities. Potential near-term uses of the region of significance to this study are offshore hydrocarbon development and tidal power generation. Offshore development of the sand and gravel resources of the Gulf of Maine is unlikely in the next 20 years.

Few existing coastal or marine uses of the region are mutually exclusive geographically. The most viable multiple-use conflict is between the commercial fishing and offshore petroleum industries. Much of this conflict however, is due to varying estimates of potential damage. The limited experience in the Georges Banks region to the south of this study areas, to date, has not borne out fishing industry apprehension.

In the foreseeable future, where temporal or geographic conflicts do arise, the limited use of zoning as a management technique will alleviate confrontation. Priority uses for a given area or at a given time will continue to be contended. Integrated and consistent implementation of decisions both at the Federal and State levels, will become increasingly important because of shrinking governmental budgets. One option for achieving properly balanced resource conservation and development, with input from all concerned parties and coordinated implementation of decisions, is made in the following chapter.

## CHAPTER 4

### THE REGIONAL APPROACH TO OCEAN MANAGEMENT

As the previous three chapters have shown, the United States has the need and the opportunity to revamp its current approach to ocean management. It is now necessary to identify and evaluate the options through which the U.S. can delimit and understand the oceans and maximize public benefit from this common property resource.

While new uses of the ocean will undoubtedly arise, many current uses will predominate for at least the next twenty years. Most of these uses have already been addressed through the legislative and regulatory process. But the management of ocean activities and resources, still needs streamlining and fine-tuning.

#### U.S. Ocean Management Efforts

As described in Chapter 1, the U.S. current system for managing the ocean and its resources began in earnest about 1945, and has proceeded through three phases. First, Federal and State jurisdiction was established; then management regimes were set up within the newly delimited jurisdictions; then efforts were made to fine-tune these management regimes. The third phase is still operating today.

The first phase included Presidential proclamation, Supreme Court interpretation, and Congressional adjustment. It ended with the 1975 Supreme Court decision in U.S. v. Maine and established that the States control the ocean for a distance of three nautical miles (except in Texas and Florida) for the purposes of resource management, subject to the paramount rights of the Federal government in matters concerning national security, navigation, international affairs, and commerce. The Federal government has authority beyond this line to the edge of the continental shelf and, for some resources and activities, to a distance 200 n. m. from shore.

Rapid scientific and technological advances after War II prodded U.S. ocean management efforts. The second phase of those efforts was largely due to emphasis on scientific endeavors rather than resource management. As ocean resources other than petroleum hydrocarbons gained importance, efforts were made to establish management regimes. Marine science is still a commanding presence in the field of marine affairs.

As deficiencies in the ocean management structure became apparent, the mode of operation became study followed by legislation. The most important studies were made by the National Academy of Science Committee on Oceanography, in 1959, the Commission on Marine Science, Engineering, and Resources (also known as the Stratton Commission) in 1969, and the Public Land Law Review Commission, in 1970, though the latter's efforts focused predominantly on onshore public lands. A formal mechanism for providing the President and Congress with timely, topical advice on ocean issues was established with the legislative creation of the National Advisory Committee on Atmosphere and Oceans (NACOA), in 1971.

These studies and numerous others proposed some corrections in the ocean management process. Many of these proposals were later enacted into law by Congress, though not often in exact form. Eleven representative, relevant pieces of such legislation enacted in the past twelve years are listed below with a brief description and primary Federal agencies affected. More detailed descriptions of these laws can be found in Appendix E.

- o The Port and Waterways Safety Act (1970) promoted the safety of ports, harbors, waterfront areas, and navigable waters of the U.S. through advanced planning. Department of Transportation (U.S. Coast Guard).

- o The Federal Water Pollution Control Act (1948, with amendments through 1978) provided for water pollution control activities, research, and grants. EPA.



- o The Marine Mammal Protection Act (1972) provided protection for marine mammals. Department of Commerce, (NOAA); Department of the Interior; Marine Mammal Commission.
- o The Marine Protection, Research, and Sanctuaries Act (1972) regulated transportation for dumping and dumping of material into ocean waters. EPA; ACOE; NOAA; U.S. Coast Guard.
- o The Coastal Zone Management Act (1972) was designed to preserve, protect, develop, and restore or enhance the resources of the nation's coastal zone. NOAA, and all Federal agency actions in or directly affecting the coastal zone.
- o The Deepwater Port Act (1974) regulated commerce, promoted efficiency in transportation, and protected the environment by regulating aspects of deepwater ports off the coasts of the U.S. Department of Transportation (U.S. Coast Guard et al.).
- o The Fishery Conservation and Management Act (1976) provided for the conservation and management of most marine fishes by extending jurisdiction to 200 n.m. and regulating foreign access. NOAA; Department of State.
- o The Federal Water Pollution Control Act Amendments or Clean Water Act (1977) revamped the FWPCA, with increased emphasis on marine pollution by oil, hazardous substances, dredge material, sewage sludge, and pollution from vessels. EPA; U.S. Coast Guard; Department of the Interior; and ACOE.
- o The Outer Continental Shelf Lands Act Amendments (1978) established a policy for the management of oil and natural gas in the OCS and for the protection of the marine and coastal environments. Department of the Interior; Department of Transportation; NOAA.
- o The Deep Seabed Hard Mineral Resources Act (1980) provided an interim management system for the development, primarily of manganese nodules, pending resolution of the U.N. Conference on the Law of the Sea. NOAA.
- o The Ocean Thermal Energy Conversion Act (1980) regulated the development and utilization of OTEC power production. NOAA.

These laws illustrate the diversity of ocean resources and activities subject to U.S. management and indicate the diversity of Federal actors. Many were enacted in response to the earlier-mentioned studies of U.S. ocean management efforts.

During and after the study and legislative phase came fine-tuning in the form of legislative amendments to the applicable statutes and comprehensive studies of both the direction of U.S. ocean management and the organizational structure responsible for implementing it. Nearly all the laws mentioned above have been amended to correct unforeseen deficiencies or contingencies, but the amendments will not be discussed.

#### **Previous Reorganization Recommendations and Ocean Policy Studies**

The Commission on Marine Science, Engineering, and Resources, or Stratton Commission, provided the first, high-visibility, broad-based review of U.S. ocean management. Many of its recommendations were subsequently enacted into law, such as the Coastal Zone Management Act of 1972. A major proposal of the Commission's 1969 report was establishment of an independent ocean agency to consolidate the ocean functions of most Federal agencies. In 1970 President Nixon did establish the National Oceanic and Atmospheric Administration (NOAA)--the name proposed by the Stratton Commission, but fell far short of its goal. Moreover, NOAA was placed within the Department of Commerce, not established as an independent agency.

Little more than a year later, President Nixon proposed consolidating all Federal natural resource functions, including major ocean functions, within a Department of Natural Resources (DNR), based on the recommendations of his Advisory Council on Executive Reorganization (the Ash Council). Though hearings were held in Congress, no action was taken on this proposal.

In 1973, President Nixon again introduced legislation to create an expanded natural resource department, the Department of Energy and Natural Resources

(DENR), along with an independent Energy Research and Development Administration (ERDA) and a Nuclear Energy Commission. The DENR would have housed all major ocean functions of the Federal government. Though ERDA and the Nuclear Regulatory Commission were approved by Congress, in 1974, the DENR was not.

In its 1973 "Third Annual Report to the President and Congress," NACOA strongly advocated reorganization of the Federal government to sharpen the focus on ocean functions.

In 1975, the General Accounting Office, released its report, "The Need for a National Ocean Program and Plan," commenting on the number of agencies and departments with ocean-related responsibilities. GAO further recommended establishing a comprehensive national ocean program and plan. No major realignments were forthcoming.

Upon his election, President Carter established the President's Reorganization Project (PRP), which shortly thereafter proposed creation of a Department of Natural Resources. This would have encompassed all major ocean functions. President Carter also initiated the comprehensive National Ocean Policy Study, housed in the Department of Commerce. This study, released in 1978 and entitled, "National Ocean Policy in the 1970's: Status and Issues," provided an excellent review of Federal ocean functions and controversial issues, but made few concrete recommendations.

Responding to President Carter's PRP proposal, NACOA convened a major workshop on Federal ocean organization and issued a special report to the President and Congress in 1979. This report entitled, "Reorganizing the Federal Effort in Oceanic and Atmospheric Affairs," although greatly expanded, followed the recommendations made in NACOA's Third Annual Report, mentioned above. NACOA's principal recommendation was that the nonmilitary Federal ocean organization be centralized in a new cabinet-level department. This would have gathered the ocean activities of the Departments of Commerce, Interior,

Agriculture, and Transportation together with those of the ACOE. Further, the report recommended an evaluation of whether NASA should be included within this new department.

President Carter's PRP proposal for a DNR and NACOA's proposal for a department of the oceans caused a great deal of controversy, but no substantive action was forthcoming. Figure 1 is provided to illustrate the complexity of the current Federal structure for ocean program administration. The Marine Affairs Council proposed below is shown schematically where it would be established if implemented as recommended.

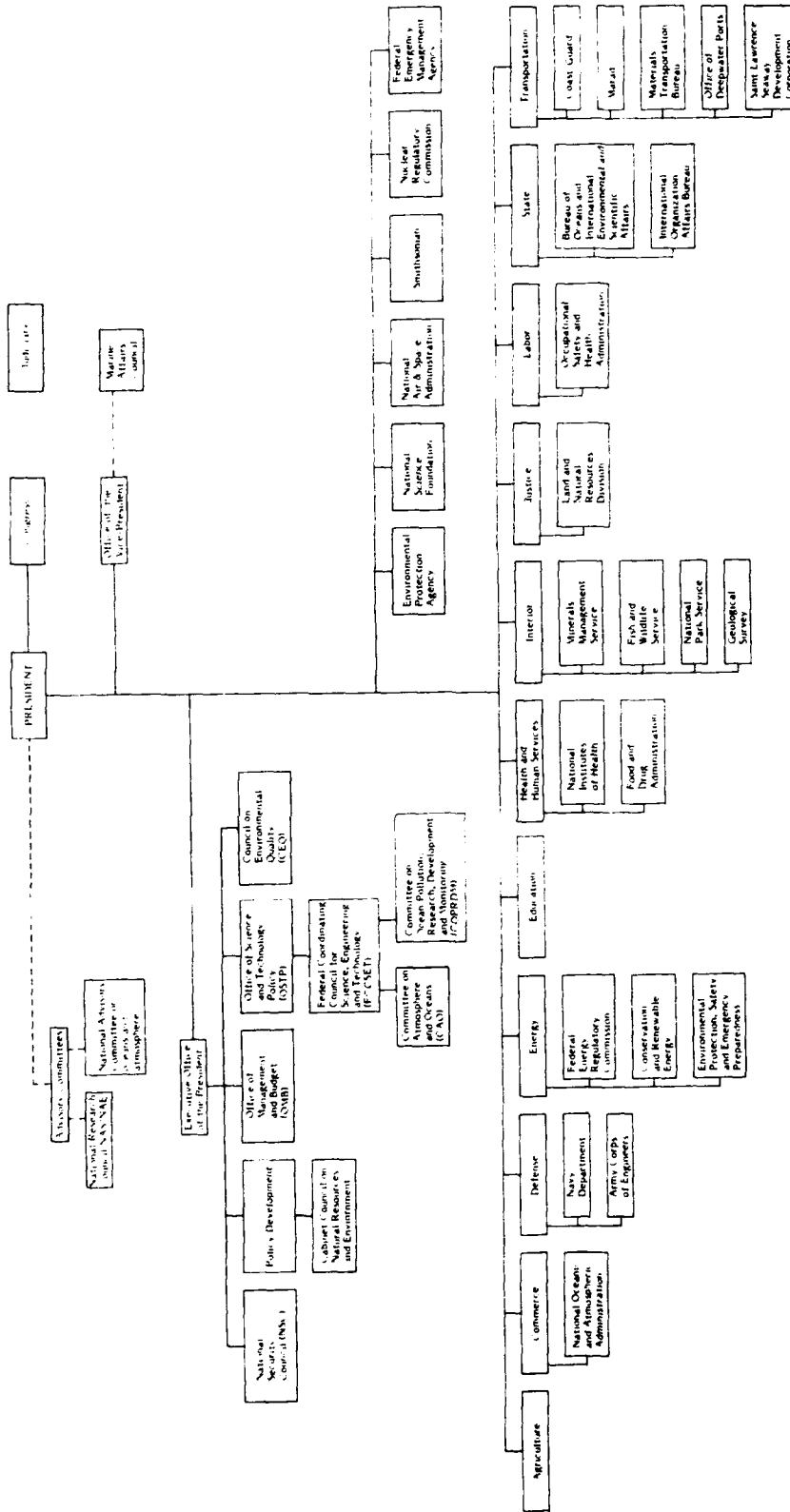
### **The Fate of Previous Alternatives**

Unfortunately, inertia plays a key role in the fate of proposals which challenge the status quo. In a bureaucracy, a department or agency is evaluated by how well it administers its assigned responsibilities. Its budget depends on the number, importance, and visibility of its responsibilities.

In the administration of their duties, Federal bureaucracies must learn who their constituencies are and attempt to satisfy them, and simultaneously broaden their bases of support. By broadening its constituent base, aligning itself with the proper power centers, and faithfully discharging its duties, a bureaucracy tends to grow. The study of this form of bureaucratic politics comprises a significant part of the literature devoted to political science, organizational behavior, and public administration.

The outcome of this bureaucratic behavior is a sort of locational inertia resulting in "political turf." Bureaucracies and their public, private, and Congressional constituencies become accustomed to a particular modus operandi, and while they are not always happy with individual decisions, they are at least familiar with the rules of behavior. A major realignment of authority can thus be expected to meet with a great deal of opposition from affected constituencies and bureaucracies. (An examination of the history of the proposals for a

**Figure 1. Current Federal Ocean Program Administration**



Department of Natural Resources verifies these assumptions.) Any major Executive branch reorganization would also require similar reorganization within the authorization and appropriation committees of Congress, which is not known for proceeding very rapidly.

This brief discourse on bureaucratic behavior identifies an assumption inherent in our proposal for reorganizing the U.S. ocean management effort--namely, that no major realignment of government authorities conducting ocean management is imminent. At least in the near future, it is unlikely that a department of either the oceans or natural resources will be formed.

Further support for this assumption is garnered from the still-evolving tenets of federalism. Particular proposals aside, there is a long history of efforts to realign intergovernmental relationships at the Federal-State level. The assumption is further strengthened by the current fiscal austerity and growing debt at the Federal level. During the late 1960's and 1970's, many programs, notably resource and environmental management, were centralized at the Federal level. Many of these programs were designed to be returned to the States when the requisite abilities had been developed therein. Much of this technical expertise now exists within the States, although financing may not.

With the current call for a "New Federalism," the States will probably be assuming more responsibility for administering programs based upon broad national standards. The trend toward general permitting is an indication of the regulatory readjustment period.

Though the States may assume program administration responsibilities in areas where they previously had less involvement, many ocean management problems will remain largely under Federal control. But, the States will be demanding more active roles and direct benefits.

For the reasons discussed above, as well as the complexity of the ocean ecosystem and the transboundary effects of many ocean activities, it is

appropriate to investigate a more regionalized approach to ocean management. Further, as the administration of many ocean programs has proven, State and Federal governments both have legitimate interests on the other side of the artificial boundary that divides their jurisdictional and management authority. Any readjustment of this boundary, such as the expansion of the territorial sea to 12 n.m. discussed in Chapter 1, will provide even greater incentive to develop mechanisms for formally coordinating Federal-State ocean management responsibilities.

### **The Regional Approach to Ocean Management**

Future efforts to coordinate ocean management should be focused at the regional level. A strong regional focus will improve coordination and cooperation among agencies and between the State and Federal governments.

Additional incentives for regional coordination include the growing need for improved State input to ocean management, and the problems of administering national programs in a country as regionally diverse as the United States. Congress has granted the coastal States broad jurisdictional authority over natural resources extending three n.m. from their shores (except in Texas and Florida) in the Submerged Lands Act. Other statutory grants by Congress give coastal States broad management authority over such resources as fisheries and activities such as planning and pollution control in the territorial sea. These authorities include a significant portion of the nation's offshore resources and should not be summarily dismissed. Coastal State authorities cover the transitional zone between land and water, and all interchange must pass through this area. Activities taking place either landward or seaward can significantly affect this zone. For these reasons it seems prudent that coastal States and the Federal government cooperate in managing the activities and resources of the coastal zone and ocean.

The ocean management process must also accommodate differing regional needs and priorities. Fiscal austerity at the State and Federal levels makes it

increasingly important that national regulators provide some degree of regional flexibility in program implementation, to allow State and regional administrators to tailor programs to regional needs. For example, as pointed out in Chapter 3, the 1977 amendments to the Marine Protection, Research, and Sanctuaries Act established a December 31, 1981 deadline for ending ocean disposal of harmful sewage sludge. This ban included disposal both by dumping and by pipeline outfall into the ocean. The geological and oceanographic differences in areas surrounding pipeline outfalls vary greatly. Regionally distinguished dispersal criteria should have been the basis for restricted piping or dumping of sewage sludge. A ban or other prescriptive regulation based on nationally equivalent standards does not allow for maximum implementation at the State or regional level.

Greater State input and regional tailoring of the ocean management process can be achieved by partially decentralizing program implementation and administration authority to the regional level, based upon broad guidelines issued at the national level. Organizing on a regional level meets a problem of scale where political boundaries and government function overlap, creating inconsistencies and inefficiencies; provides for improved coordination, and therefore increased effectiveness; and alleviates problems of over-centralization (See Derthick, 1974, for an in-depth examination of regionalism).

Regional organizing also includes the following benefits:

- o Multiple-party decision-making expands the perspective brought to bear on an issue.
- o Decision-making at the regional level, and encouragement of consensus development, may stem the tide toward producer co-optation of a regulator or regulatory body.
- o Costs are minimized through administrative streamlining and the elimination of redundant functions resulting from improved coordination.



- o A regional forum provides more accessible and direct State input to decision-making, and could serve as a conduit for technology transfer from the Federal to State levels.

- o A regional forum would provide a clear focus of accountability for decision-making, something largely obscured in the current, complex decision-making structure for ocean affairs.

- o By focusing on an area, as opposed to a specific function, regional organizations can address transboundary problems with broader perspectives.

- o A regional forum can serve as a conflict resolution mechanism for expedient response to conflict among competing users.

- o Organizing regionally minimizes interagency conflict and confusion over "turf" set by legislative and historical mandates.

Of course, the particular organizational structure determines which benefits are achieved by regional organization.

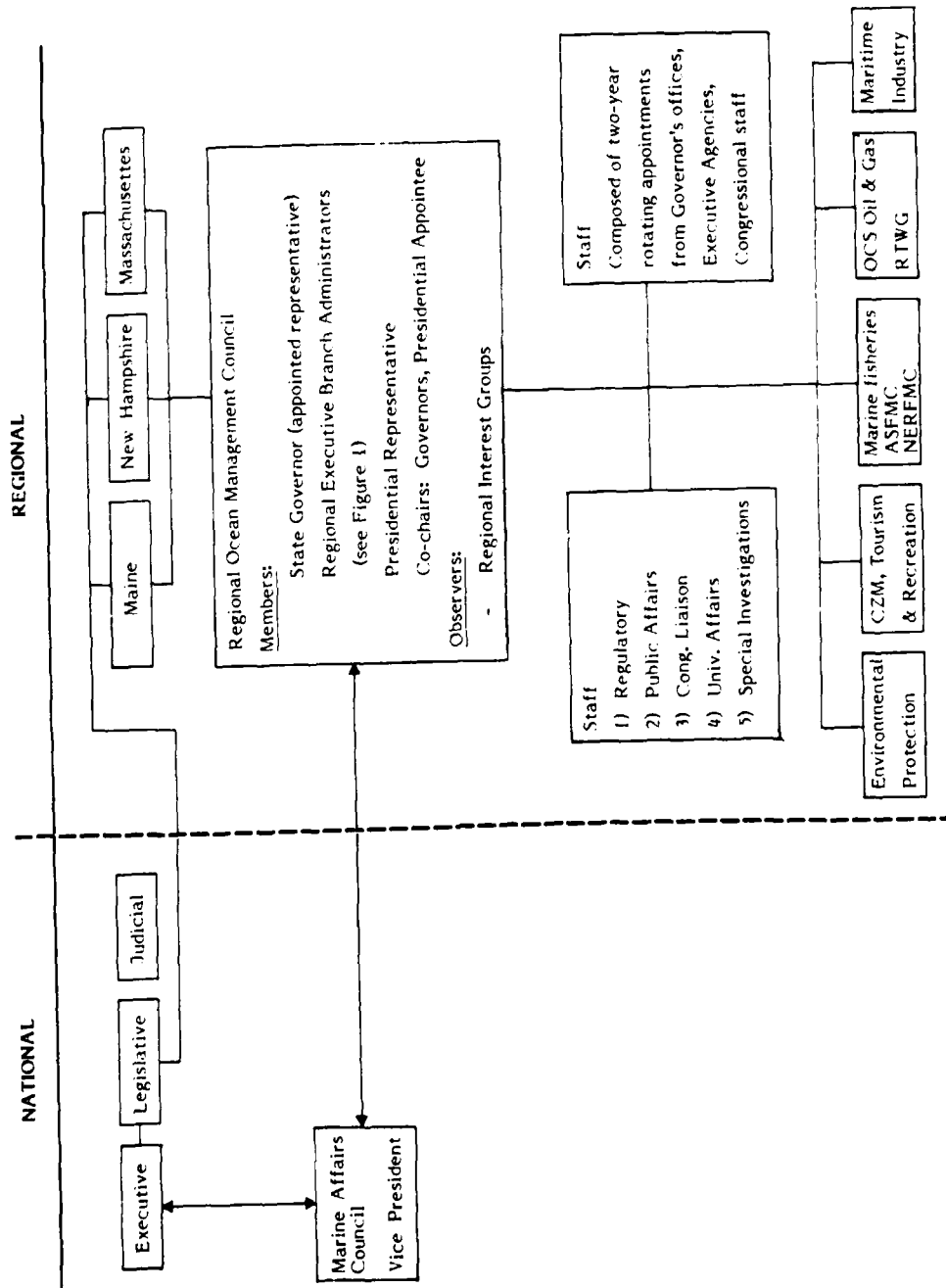
### **Coordinating Ocean Management At The National And Regional Levels**

It is not within the scope of this project to undertake an analysis of organizational structure and behavior resulting in a precisely outlined regional council for marine affairs. Instead, two modifications to the current ocean management structure are suggested--one relatively novel, one not so novel.

Figure 2 represents this proposal graphically. This rough organizational structure is an initial "cut," and it is expected that significant refinements remain to be made. Nonetheless, the elements of this proposal are sound.

The proposal for the regionalization of U.S. ocean management efforts includes two initiatives. This first initiative is the creation of a Marine Affairs Council in the Office of the President, to be chaired by the Vice-President and composed of the Secretaries or Administrators of all departments or agencies having significant ocean programs.

Figure 2. Proposed Marine Affairs Council Structure



This Marine Affairs Council bears a striking resemblance to the National Council on Marine Resources and Engineering Development (P.L. 89-454), otherwise known as the Marine Sciences Council, which existed from 1966 to 1972. The Marine Affairs Council is intended to: elevate marine affairs to a position of visibility; coordinate Federal ocean activities and reduce duplication; provide a forum for interagency conflict resolution; be, with Congress, the only promulgators of ocean policy; and provide for Federal cross-cut budget analysis, to ensure that promulgated policies are being pursued and to make recommendations to the President and Congress accordingly.

The Marine Affairs Council fulfills the need for interagency coordination at the Federal level. It would have a broader mandate than the Marine Science Council and would cover oversight and planning for both scientific and management programs in fisheries, mineral development, marine transportation, waste disposal, marine science, ocean energy, and coastal zone management. The Marine Affairs Council would also be responsible for setting national goals and objectives and structuring them by priority to establish a national agenda for ocean programs. It would receive the advice of such groups as NACOA and the relevant committees of the Federal Coordinating Council for Science, Engineering, and Technology (FCCSET) to name only a few.

Although creation of the Marine Affairs Council would do much to improve the conduct of marine affairs at the national level, it would not address the issues of additional State input and program conformity with regional diversity. To provide for these considerations, this proposal creates a Regional Ocean Management Council--the regionalized counterpart of the Marine Affairs Council. The Regional Ocean Management Council would be responsible for ocean program implementation, administration, and evaluation at the regional level.

The Regional Ocean Management Council would be composed of the Governors of the affected States--in this case, Maine, New Hampshire, and Massachusetts--or their specially designated appointees. Other Council members

would include the head of each relevant regional executive agency office, and a Presidential appointee. The Presidential appointee and one of the Governors would serve as Co-Chairpersons of the Council. The Governor of each affected coastal State could rotate its co-chair duty annually. All regional Co-Chairpersons would be required to report to the Federal Marine Affairs Council twice annually on the conduct of ocean management efforts in their respective regions. Non-voting, observer status membership might be accorded organized regional interest groups.

Additionally, each Regional Ocean Management Council would be accorded special working groups drawn from regional technical specialists. Working groups attached to such a Council in northern New England might be concerned with fisheries, oil and gas, maritime industry, coastal zone management, and environmental protection. These special working groups would inform and advise council members on their specialty areas. Existing regional management and technical groups, such as the New England Regional Fishery Management Council and the New England Regional Technical Working Group of the National OCS Advisory Board, should be appended to the Council as specific working groups. Not doing so would detract considerably from the Council's authority and cripple its ability to provide comprehensive management.

Staff for the Regional Ocean Management Councils could be nominated for duty on rotating two-year appointments by the offices of the affected State Governors, the regional executive branch agencies, and the offices of regional Congressmen and Senators. The purpose of this rotating, selected staff is two-fold. First, drawing the Council's staff from existing technical staff would minimize direct expense to the Council. Second, such a cross-sectional group limited to two-year appointments, would make up an energetic and informed staff and broaden the Council's exposure and expertise. This Regional Ocean Management Council staff could be responsible for regulatory review for compliance with Council decisions, public affairs, congressional liaison, university relations, and special investigations.

Through consensus, the Regional Ocean Management Councils would deliberate and reach decisions on ocean management initiatives and conflicts. Decisions would be binding on members, who in turn must be able to commit their groups to these decisions. The range of actions of the Council should be defined by charter, so all will know the operating procedures and purview.

As indicated in the earlier discussion on the fate of alternatives, any change from the status quo is likely to encounter substantial opposition. The Regional Council would be only as effective as its founders allowed it to be. If established without a sound basis of authority, the Regional Council would serve as little more than an information conduit. The Council would require the authority to commit its members to consensus decisions. If states were allowed to circumvent the Regional Council by going straight to the Federal level, the Council's existence would be threatened. To be effective, binding decisions made at a regional level must be carried out by the relevant State and Federal agencies.

A final problem with this particular structure for regional organization is how and to what degree opposition will arise during attempts to bring it into conformity with existing organizations with ocean responsibilities. Competing organizations in the region might vie with the Council for power in an attempt to further their self-interests. Vesting authority for making, implementing, and enforcing management policy in the Council will deter such competition.

### **Agency Interaction**

Preceding chapters have shown that Federal involvement in ocean management is both complex and exceedingly diverse. The Federal regime for ocean management spans the spectrum of authority from environmental protection to resource development, and from education and recreation to industrial expansion and military activities. Since the expiration of the Marine Science Council in 1972, this spectrum of authorities has not been coordinated effectively or authoritatively at the Federal level. In fact, the bulk of Federal

authorities concerning ocean management have been enacted and implemented since that Council's demise.

Many of the programs implemented under these relatively new Federal authorities are beginning to mature, and in recent years their numerous goal and programmatic conflicts have become increasingly apparent. Perhaps the most visible of these conflicts has arisen over the Department of the Interior's efforts to accelerate leasing and development of the offshore hydrocarbon resources of the Outer Continental Shelf. This conflict involves disputes between Federal agencies with divergent mandates and between the Federal and State governments. For example, the Interior Department was embroiled in a divisive dispute with both NOAA and EPA, prior to Lease Sale 42 in Georges Bank, over environmental and resource protection issues. Further, Lease Sale 42 and other lease sales, in nearly every region of the U.S., except the Gulf of Mexico--a mature OCS region--were contested legally by adjacent coastal States and public interest groups. It is clear that these intra-Federal and intergovernmental disputes will only impede the achievement of national ocean goals and objectives.

Many such ocean resource/activity conflicts arise because of the lack of an integrated, comprehensive approach to ocean management. Neither Congress nor the Federal government has attempted to cogently identify and establish priorities for national ocean goals and objectives. Therefore, each agency has no overall framework or direction to guide its actions in carrying out its legislative mandate. The legislative establishment of a Marine Affairs Council within the Office of the President would go far toward coordinating Federal ocean management efforts. Again, establishment of such a council should be accompanied by a mandate to review the legislative framework for Federal ocean activities and develop a set of prioritized national ocean goals and objectives, with an agenda for meeting them.

This proposal would immediately benefit U.S. ocean management efforts. Its effectiveness would, however, be greatly complimented by establishment of

the Regional Ocean Management Councils. If accompanied by a decentralization of programmatic authority, the establishment of these Regional Councils would allow nationally mandated programs to be tailored to regional needs and priorities. Further, these Councils could greatly ease intergovernmental tension in the field of ocean management, and accordingly allow ocean goals and objectives to be met more quickly and easily.

Appendix C is provided for several purposes. First, the sheer complexity of this table illustrates the diversity of ocean management functions of both the Federal and relevant State governments. Additionally, this table graphically represents, within each functional ocean management category, the State and Federal agencies that would interchange at a regional level in the coordination of their activities.

### Conclusion

This chapter has suggested the creation of two new organizations to comprehensively address the field of ocean management. At the Federal level, it is recommended that a Marine Affairs Council be established in the White House to set ocean policy and coordinate existing Federal ocean programs. At the regional level, it is recommended that a Regional Ocean Management Council be created, using existing State and Federal agencies. The Regional Council would tailor national programs to regional realities and coordinate program implementation and administration between different agencies at the regional level.

Past reorganization attempts in marine affairs have not fared well. However, we believe that either the need was not so strong, or the opportunities, such as offshore jurisdictional changes and a strong focus on realigning State-Federal relations, were not present. Today these needs and opportunities are creating the chance to reorganize our domestic efforts in ocean management. This chapter suggests one way to take advantage of this chance.

## **CHAPTER FIVE**

### **IMPLEMENTATION STRATEGY AND MAINTENANCE PROCEDURE**

As brought out in the Introduction and Chapter 4, the planning process is composed of four basic steps. Chapter 5 presents the last step in this process--recommendations for plan implementation. In addition, a proposal for periodic review and maintenance of the proposed ocean management strategy is made.

#### **Options for Implementation**

The implementation of the proposal for a Federal Marine Affairs Council and a Regional Ocean Management Council could proceed along different courses, depending upon whether the entire proposal or only part were adopted. An implementation strategy for the proposal as a whole and for its two components independently is presented below.

The optimal implementation strategy for establishing both the Marine Affairs Council and the Regional Ocean Management Councils would be through legislation sponsored or supported by the Administration, for several reasons. This strategy would provide a solid organic base for both Councils and an indication of Federal commitment. The legislation in one or several pieces, could create the Marine Affairs Council in the Office of the President, assign the Vice-President to chair this Council, and establish its mandate along the lines of P.L. 89-454, which established the Marine Science Council--but with a broader perspective, to include the more resource management-oriented functions of the Federal government. As a separate Title, such a bill could further consent to the formation of regional interstate-Federal compacts for coordination and comprehensive planning of ocean management.

The Marine Affairs Council should be legislatively mandated to coordinate Federal ocean science, engineering, development, and protection programs. To provide the Council with adequate authority to accomplish its task, the legislation should also mandate a cross-cut budget analysis of these programs, to identify duplication or absence of effort and aid in making budget recommendations to both the President and Congress. It is further recommended that the



Marine Affairs Council be mandated to conduct a review of the Regional Ocean Management Councils' activities every two years and provide a critique of their operations to the Regional Councils, the President, and Congress. The mandate of the Regional Councils should clearly establish their responsibilities for preparing joint comprehensive plans and subsequently establishing project priorities, basic joint data gathering and storage/dissemination, and conflict resolution.

While the Regional Ocean Management Councils could be established in a number of ways, it is recommended that they be created legislatively in the form of interstate-Federal compacts. There is ample precedent for this form of intergovernmental compact--for example, the Delaware River Basin Commission. The mandate and authority of the Regional Councils should be clearly defined in legislation. Past examples, provided by the Delaware River Basin Commission (13) and the Title II River Basin Commissions, established by the 1965 Water Resources Act (64), have shown that unless sufficient, clearly defined authority is granted to the Regional Councils, their future productivity will be handicapped.

By establishing both the Marine Affairs Council and the Regional Ocean Management Councils legislatively, Congress will be able to reserve unto itself the right of oversight and the responsibility for authorization and appropriations, perhaps on a four-year cycle. A four-year cycle would allow time for both Councils to "settle" into their new relationships, for the Marine Affairs Council to review the activities of the Regional Councils, and for subsequent recommendations to be implemented.

Though composite legislation drafted to include both proposals would be the preferred option for implementing this comprehensive approach to ocean management, the proposals for the two councils could be legislated separately. The feasibility of implementing this strategy will be discussed in a following section. The point is that even without full implementation of this proposal, several options remain. These are briefly addressed below, and are basically permutations on the original proposal.

At the national level, establishment of the Marine Affairs Council, either legislatively or by administrative fiat, would be to good purpose. Some observers have suggested (6), that the Council should remain relatively small, so that its cost and structure are controllable. Coordination of current Federal ocean management efforts alone would provide a marked improvement and likely cost saving. The agency budget review power is critical to the success of the national Council. Without it budget competition will continue since, as at present, no one will have an overall grasp of ocean management budget allocations and redundancies. It is highly recommended that establishment of the Marine Affairs Council be accompanied by a national review of ocean legislation and programs, to identify national goals and to evaluate how they are being addressed and where improvement is needed.

A lesser but more immediate step to coordinate ocean activities would be for Executive branch departments with ocean-related activities to organize regionally for a more formal informational interchange. Improvement would result were this accompanied by some degree of decentralization of decision-making authority.

Similar coordinative relationships could be formed between the coastal States, on a regional basis. Without some increased input to the Federal decision-making process, however, this would have less than optimal results.

### **Feasibility of Implementation**

The feasibility of implementing a comprehensive ocean management plan rests on many conditions, ranging from broad philosophical concerns to very specific and concrete assumptions. Plan adoption hinges on the timing of proposals introducing it for consideration, i.e., policymakers' perceptions of its appropriateness as a logical next step in the ocean management process. The likelihood of plan implementation will be enhanced, for example, if the proposed plan fits into an emerging framework and does not radically depart from the status quo. Timing is important. If the proposal is introduced before it is assured of broad support, it may never move beyond the early stages of the legislative process. Feasibility of implementation, as discussed here, assumes that these broad concerns may be overcome.

The following discussion focuses on the practical and specific assumptions regarding feasibility. The practical aspects of implementing the plan pose a more difficult obstacle to its adoption than any philosophical concerns. The practical questions include: who will bear the costs of the ocean management plan? How will Federal and State authority and responsibility be shared? What is the extent of the Federal government's commitment to decentralization of functions? In the give-and-take of the political arena, these questions must be resolved so that proper jurisdictional and administrative roles are preserved, costs and benefits are distributed proportionately, and the ocean management plan becomes an effective tool for guiding ocean activities and resource allocation.

The U.S. should implement the Marine Affairs Council plan as a minimum first step to stem the continuing fragmentation and compartmentalization of ocean policy and take advantage of the current opportunity to establish and stabilize a firm jurisdictional framework in the oceans. The appropriate time for developing and implementing such a comprehensive ocean management plan is now at hand.

As mentioned before, the Regional Ocean Management Council for the Gulf of Maine would be composed of agencies, institutions, and representatives of the States (Maine, New Hampshire, and Massachusetts) having an interest in or concern with ocean management in that region. The principal link between the Regional Ocean Management Council and the Marine Affairs Council would be the Federal representative, appointed by the President. Together the national and regional Councils would formulate policy and make decisions, within the limits of their legislated authority, regarding ocean management strategies for the Gulf of Maine.

If developed more fully, Regional Ocean Management Councils with similar organizational structures could be implemented for the entire United States. Each Regional Ocean Management Council would coordinate with the Marine Affairs Council at the Federal level.

Implementation of a Regional Ocean Management Council for the Gulf of Maine would be consistent with the broad U.S. trend toward decentralization of

government. The regional concept for management of ocean resources has practical appeal. The region occupies a position in the hierarchy of spatial organization that is somewhere between the state and the nation, both of which are historically arbitrary constructs. Regions are geographically described areas, and characterize the interrelatedness between the physical environment and a population's cultural and economic values more clearly than arbitrary political subdivisions. Because they are reflective of an area's homogeneity, regional administrative units are more efficient constructs. They more closely represent and respond to the needs and concerns of an area. Moreover, regional administration is broadly consistent with ocean use patterns, which are defined more geographically than politically. The Regional Ocean Management Council for the Gulf of Maine would allow the coordination of marine-related activities within a framework reflective of the area's economy, culture, social and historical development, and environmental constraints.

The ocean's physical and legal characteristics--i.e., its nature as a fluid medium and a public resource, give rise to trans-boundary impacts. Some of these preclude efficient management at the State level. Nearly every ocean activity has trans-boundary implications--fish and other living resources are migratory, and ocean commerce and navigation are not constrained by State or Federal boundaries. Nor is oil-spill contingency planning solely a State or Federal concern. The regional approach appears to be most logical and efficient for handling the broad spectrum of ocean management needs. The Regional Ocean Management Council appeals practically because it focuses on the region, yet consists of representatives of State, Federal, and local interests, plus representatives of specific interest groups. The representatives would have the responsibility and the prerogative to introduce specific concerns into the council forum regardless of their geographic specificity.

The purpose of the Regional Ocean Management Council would be to administer, manage, plan, and coordinate ocean activities in the Gulf of Maine, without having specific functional ties. Its implementation is feasible if participants agree to share the burden of costs and the distribution of authority, and if they have a genuine commitment to the plan's success. Implementation also hinges on resolving the problems that characterized predecessor organiza-

tions, by providing strength where organizational weaknesses have been identified.

The first major concern involves costs and funding. The Federal government's emphasis on budget-cutting, fiscal austerity, and shifting of programs to the States suggests that its enthusiasm for implementing the plan would be lukewarm--unless the plan reduces the costs of administering programs that the Federal government now bears. Conversely, the Federal government's participation in the plan would require discretionary power over its budget and disbursement of funds.

In order to gain enthusiastic State and Federal participation, the implementation strategy must allocate a meaningful share of authority and responsibility to both sides. States' participation is especially contingent upon their being delegated a substantive role. States would, of course, be very reluctant to adopt the plan if the gains in authority and other benefits come at a very high monetary cost. Most States, like the Federal government, are experiencing budget deficits and seeking ways to reduce their burden.

With a Federal-interstate compact arrangement, Federal and State members benefit by coming together to study problems and plan for solutions that they cannot approach or solve independently. Problem solving and planning require an unimpeded free exchange of information based on a genuine shared authority and responsibility. The effectiveness of any intergovernmental commission or council depends on all parties' commitment to support and full participation, even if they must occasionally sacrifice their prerogatives.

To strengthen the organization, the role of the Federal government, while paramount, should be vested in the Federal Co-Chairperson in the Regional Ocean Management Council. As the President's representative in the region, the Federal Co-Chairperson should have the authority to commit the Federal government to positions on issues brought before the Regional Ocean Management Council. Under this plan the Federal government would, as usual, retain the lead role as the principal regulatory body. The Regional Ocean Management Council could be given review authority regarding regulations. Through legislation, the Federal government would continue to direct the overall ocean

management strategy, issuing national guidelines for regulated activities. Regulations would be implemented regionally.

States' participation within the organization must be strongly induced or forced. Member States and agencies should be encouraged to shed their inherent parochial concerns. The Federal and State governments, as well as many existing institutions and agencies, have the authority to plan and coordinate on their own. They might find bypassing the Regional Ocean Management Council expedient unless legal or strong financial inducements, or self-serving motivations, encourage them to participate. Unless the authority of the Regional Ocean Management Council is significant, institutions will seek to exercise their authority where it is most effective--even if that results in a parochial solution to the problem.

The balance of State and Federal authority and responsibility within the organization has a financial component. Decision-making authority goes hand-in-hand with fiscal authority. The comprehensive plan's implementation feasibility is contingent on the funding authority of the Regional Ocean Management Council. Depending on how the comprehensive ocean management plan is enacted, the Regional Council's funding may come through the Marine Affairs Council or by direct appropriation. The details of the plan's funding are beyond the needs of this discussion, but some type of funding through the Regional Ocean Management Council is necessary for its successful implementation. The Council must serve as a conduit for funding of activities if it is to have a genuine role in regional ocean management.

Within the Regional Ocean Management Council, ultimate authority must reside with the Federal government. Previous Department of Justice rulings require that a precise balance exist between State and Federal interests, so the Federal interests may not be subordinated by the States. Although the exact mechanism will not be detailed here, the organization must be structured to accommodate the Federal authority requirement.

Finally, the feasibility for implementation depends on the sincerity of the Federal commitment to decentralizing governmental functions. If the Federal government shifts program management responsibility to the States to alleviate

its fiscal burden, without guaranteeing a genuine participatory role for the States, the plan's implementation would fail. Of course, even a regionally-administered plan would be subject to Federal review.

A comprehensive ocean management plan based on the establishment of a Marine Affairs Council and a Regional Ocean Management Council for the Gulf of Maine is currently the most plausible hypothetical ocean management plan that could be implemented in the United States. New England has a particularly strong tradition of cooperative relations among neighboring States, including participation in several interstate compacts originating in the 1940's: the Atlantic States Marine Fisheries Compact (1942), the Northeastern Forest Fire Protection Compact (1949), and the New England Interstate Water Pollution Control Compact (1947).

New England also has a successful tradition of cooperation with the Federal government through statutory agreements, among them the recently terminated New England Regional Commission (NERC) and the New England River Basins Commission (NERBC). The termination of these agreements was not indicative of their performance level, but rather a function of Federal budget cuts, which are a measure of the administration's concern for reducing spending. While there is serious concern for reducing the growth rate of Federal spending, the costs of establishing and supporting a Regional Council could come from savings realized through consolidation and a streamlining of existing programs.

### **Review and Maintenance Procedures**

The review and maintenance procedure is designed to ensure that the comprehensive ocean management plan is achieving the desired objectives. Based on the review, the plan may be altered to reflect a changing mandate of management philosophy. The review may also result in recommendations for change in the composition of the representatives, to accommodate the changing dynamics of ocean resource use and new social, economic, or technological developments.

Both Congress and the Marine Affairs Council would participate in the review process. If the Marine Affairs Council and the Regional Ocean Management Council were legislatively created, Congress would necessarily have an oversight role in monitoring the effectiveness of the comprehensive ocean management process. As part of its oversight responsibilities, Congress would review the Regional Ocean Management Council's budget and authorize appropriations, perhaps on a four-year cycle.

As envisioned, the comprehensive ocean management plan would be authorized on a four-year renewal cycle. Every two years, the Marine Affairs Council would conduct a review of the Regional Ocean Management Council's activities and formulate recommendations for the Congress in biennial reports. The Marine Affairs Council review process would consist of presentations and statements from major members of the Regional Ocean Management Council, including Governors of the States or the State Co-Chairperson, and the Federal Co-Chairperson.

Reauthorization of enabling legislation and recommendations for maintaining the integrity of the comprehensive ocean management plan would follow the Marine Affairs Council review. The maintenance procedure should not only consist of an administrative, management, and budgetary review, but should incorporate a technical review to ensure that all potential ocean interests are being properly represented on the Regional Ocean Management Council.

The principal funding mechanism for the plan would be Congressional appropriations from general treasury revenues. Although the overall costs of such an organization are designed to be relatively low, it is worthwhile to explore alternative funding sources.

Alternate funding mechanisms could include OCS revenue sharing, fees paid by foreign nationals for fishing permits, and user fees. Revenue sharing based on OCS oil and gas production, if enacted, would be a likely source of transitional financing for the plan's operation. But since OCS oil and gas revenues would be generated from a depleting resource, they could at best be viewed as a temporary source of funding. Fees paid by foreign nationals for permits to fish in U.S. waters are a potential source of revenue and could be



diverted into a dedicated fund for support of the Regional Ocean Management Council. User fees are increasingly proposed as a solution for funding Federal programs that benefit a narrow spectrum of the public. These monies could be used to benefit the entire ocean user community.

## **CHAPTER 6**

### **FUTURE U.S. COAST GUARD ROLES**

#### **Coast Guard Statutory Authorities and Responsibilities**

The U.S. Coast Guard's major responsibilities lie in six broad functional categories, five civil and one military. The civil programs are search and rescue, aids to navigation, marine safety, enforcement of laws and treaties, and marine environmental protection. The Coast Guard maintains a state of military preparedness to function as a specialized service in time of war. Within each of these functional categories, the Coast Guard has the responsibility to perform specific functions or accomplish certain missions.

The functions and missions of the Coast Guard are grounded in a detailed set of statutory authorities. Although the many statutes provide neither a programmatic description nor a program justification of the Coast Guard's roles, the responsibility to conduct the program elements is generally authorized by one or more of the statutes. The statutes are the foundation for the more detailed specification of procedures, techniques, and operational activities undertaken to accomplish the various program elements conducted by the Coast Guard. As such, they are the basis for what, how, and why the Coast Guard does what it does. Where appropriate, the following discussion of the Coast Guard's programs will identify the relevant statutory authority for the program.

The total Coast Guard operating budget for Fiscal Year 1982 is \$1.387 billion dollars. This includes program operating expenses, personnel costs, and support overhead costs. Table 10 shows the costs by program and relative proportion of the individual program's cost to the total budget.

**Table 10. Fiscal Year 1982 U.S. Coast Guard Program Costs**

<u>Program</u>	<u>FY 1982 Total Program Cost \$Millions</u>	<u>Percent of Total</u>
Search and Rescue	353.8	25.5
Recreational Boating Safety	46.1	3.3
Enforcement of Laws and Treaties	304.2	22.0
Short Range Aids to Navigation	226.7	16.3
Radionavigation Aids	88.6	6.4
Bridge Administration	5.1	0.4
Port and Environmental Safety	97.9	7.1
Marine Environmental Response	34.7	2.5
Commercial Vessel Safety	79.2	5.7
Waterways Management	8.7	0.6
Military Ops/Military Preparedness	61.1	4.4
Polar Icebreaking	49.0	3.5
Domestic Icebreaking	14.9	1.1
Marine Science Activities	16.8	1.2

Source: U.S. Department of Transportation, 1982.

### **Search and Rescue**

Search and Rescue (SAR) is one of the Coast Guard's oldest traditional missions, and the one the public most readily identifies with the Coast Guard. Most of the Coast Guard's operating units maintain a capability to carry out search and rescue operations on and over the high seas and other waters under U.S. jurisdiction. Through this program the Coast Guard aids and rescues persons and protects property placed in jeopardy through marine or aviation accidents or adverse environmental circumstances, such as floods or ice conditions.

The statutory authority for the Search and Rescue program is contained in Title 14, Sections 2 and 88 of the U.S. Code. Coast Guard participation in Search and Rescue is permissive in nature--while its role may be considered mandated, no specific level of performance is cited in the legislation.

The Coast Guard Search and Rescue responsibility became effective in 1956, and is defined in the National Search and Rescue Plan. The plan allows coordination through an interagency agreement and delineates three SAR regions: inland, maritime, and overseas. As the designated SAR coordinator for the maritime region, the Coast Guard is responsible for organizing available SAR facilities in waters subject to U.S. jurisdiction, including international waters extending far into the Atlantic and Pacific Oceans, and the Gulf of Mexico. Other Federal, State, and local agencies provide reciprocal support for SAR missions in the maritime region, and the Coast Guard is authorized to respond to calls for assistance from SAR coordinators in other regions. The Coast Guard also has responsibility for international SAR matters.

To conduct the SAR mission the Coast Guard maintains a wide variety of operational facilities dedicated primarily to SAR. When necessary, other Coast Guard resources and units may be requested to render assistance. Coast Guard facilities designated for SAR include 184 shore bases, which operate approximately 2100 small boats, 26 air stations, with 139 aircraft, and 79 patrol boats (58). All units are connected by a modern communication system capable of linking Coast Guard units with Department of Defense commands and mariners at sea. The principal beneficiaries of the search and rescue function are recreational boaters. In Fiscal Year 1978, 96.9 percent (approximately 78,000) of SAR missions occurred within 20 miles of shore (70).

### **Aids to Navigation**

The Coast Guard maintains a system of manned and unmanned aids to water navigation throughout the United States and abroad to serve the needs of the armed services and marine and air commerce. The Coast Guard also maintains administrative control over bridges across navigable waters to ensure that such structures do not interfere with the safe operation of the U.S. water transport system.

### Short Range Aids to Navigation Program

For purposes of this discussion, aids to navigation are designated as devices external to a vessel that are intended to provide visual, audible, or radar signals for warning, guiding, or otherwise enabling mariners to determine position and chart a safe course. These devices may consist of lighthouses, buoys, daybeacons, fog signals, and radar reflectors. They reduce the uncertainty of navigation, by supplementing other available information, and supplement and are used in conjunction with charts, rules of the road, and waterway regulations.

Operating aids to navigation, a major Coast Guard responsibility, is one of the oldest Federal functions. The Ninth Act of Congress, in 1789, provided that the newly-formed government should assume title and operation of the coastal lighthouses. In 1939, the Bureau of Lighthouses was abolished and the Coast Guard assumed the responsibility for aids to navigation. Today, the Coast Guard manages the Federal system of 46,000 navigation aids, and regulates more than 42,000 private aids (58).

Legislative authority for the Coast Guard to establish and maintain aids to navigation is contained in Title 14, U.S. Code, Sections 2 and 81. The objective of the program is to promote maritime safety and serve the needs of the armed forces and commerce of the United States on or adjacent to the navigable waters and the waters above the continental shelf.

### Radionavigation Aids Program

As part of the Coast Guard's general aids to navigation responsibility, it establishes, operates, and maintains electronic aids to navigation throughout the United States and in other areas of the world through its Radionavigation Program. Radionavigation aids are of three types: radiobeacons, LORAN-C, and OMEGA. Radiobeacons are omni-directional radio transmitters placed at strategic locations along the U.S. coastline. They allow vessels and aircraft to obtain direction-finding information from 10 to 175 miles offshore. Radiobeacons are simple to operate and have low equipment costs to users and a

low operating cost for the Coast Guard. The Coast Guard operates approximately 200 radiobeacons.

LORAN-C is a long-range radio pulse system for providing mariners with all-weather navigation capability up to 1,500 miles from the coast. The Coast Guard currently operates eight domestic and five overseas LORAN-C chains.

OMEGA is a worldwide, long-range, all-weather radionavigation system, consisting of eight transmitting stations and nearly 50 monitoring stations. It provides enroute navigation aid for maritime and aviation transportation modes. The U.S. Coast Guard operates two OMEGA stations; the remaining six are operated by host countries under international agreement.

The Coast Guard has statutory responsibility to define needs for and provide electronic aids to navigation. Authority for this responsibility may be found at Title 14 U.S. Code, Sections 2, 81, 82, and 93. In Fiscal Year 1981, the Coast Guard Radionavigation Program was funded at \$61.5 million for direct operating expense and \$16.4 million for general support of the programs. The programs required 1,400 military personnel and 150 civilians to operate.

The radionavigation program is intended to provide an accurate navigation service to the maritime and aviation transportation system. Continuous radionavigation service ensures the safety of life and property in the commercial land, sea, and air transportation system, assures national defense and security, and promotes greater efficiency in transportation. The service is especially critical for navigation in darkness and during periods of reduced visibility.

The overall Federal strategy to provide radionavigation services to civilian and military users is contained in the Federal Radionavigation Plan (FRP), completed in July, 1980. The FRP, jointly approved by the Secretaries of Defense and Transportation and forwarded to the President and the Congress, established the Federal radionavigation policy, identified major milestones and objectives, and serves to provide appropriate Federal agencies, including the Coast Guard, with clear direction for radionavigation programs.

### Bridge Administration

The U.S. Coast Guard assumed responsibility for the administration of bridges over navigable waters in 1967, when the Department of Transportation was formed. Bridge administration was previously assigned to the U.S. Army Corps of Engineers (ACOE). Under the provisions of a bill recently introduced in Congress, the Coast Guard's bridge administration responsibilities would be returned to the Army COE. This transfer would involve only a small portion of the Coast Guard budget, but would provide some relief for Coast Guard personnel obligations.

The purpose of the Bridge Administration Program is to ensure safe and reasonably unobstructed navigation through or under bridges spanning the navigable waterways of the United States, while meeting the needs of other transportation modes and protecting the environment.

The Bridge Administration Program includes bridge lighting for navigation, drawbridge operation regulations, approval of location and plans, and alteration of bridges found to be unreasonable obstructions to navigation (due mainly to changes in the navigation requirements on various waterways). Under the Bridge Administration Program, the Coast Guard performs three functions: bridge alteration approval, bridge permitting, and regulation of drawbridges.

Bridge alteration approval is the process whereby the Coast Guard evaluates whether a bridge unreasonably obstructs navigation. If it does, Federal funds are made available to assist in the alteration of the structure under the provisions of the Truman-Hobbs Act of 1940 (13 U.S.C. 511). Under this Act, a lawful bridge may be altered at public expense if this is determined to be necessary as a result of changes in navigational needs.

Bridge permitting approval is performed, by the Coast Guard to ensure that bridge construction or modification does not result in interference with navigation. The Coast Guard also develops regulations on drawbridge operations, to ensure that maritime commerce is not unduly impeded by drawbridge closure,

and reviews the need for navigation lights and markers on bridges spanning navigable waters.

The Bridge Administration Program involves two types of actions, preventive and remedial. Preventive action assures that the reasonable needs of navigation will be provided for as a result of the processes for approval of locations and plans of proposed bridges and deviation of plans for existing bridges. Remedial action is covered under the Truman-Hobbs Act, and provides funds for the removal or modification of certain bridges that obstruct navigation.

### **Marine Safety**

The third major civil responsibility of the Coast Guard lies in the area of marine safety. The Coast Guard is responsible for preventing maritime accidents and protecting life and property in U.S. waters and on the high seas. This responsibility is met through enforcement of U.S. laws and international agreements and through development and enforcement of regulations and standards governing commercial and recreational vessels and U.S. ports and waterways. Compliance with the law is assured by a program that includes: a review of plans and specifications for the construction or alteration of merchant vessels; periodic inspection of vessels and marine facilities; licensing activities; management of vessel traffic; regulation of hazardous materials; and the establishment of standards for licensing and regulating marine personnel. The Coast Guard also conducts an extensive safety program for recreational boating. It discharges its responsibility for marine safety through three main programs: Recreational Boating Safety, Commercial Vessel Safety, and Waterways Management.

#### **Recreational Boating Safety Program**

The purpose of the recreational boating safety program is the minimization of risk or loss of life, personal injury, and property damage that may result from the use of recreational boats. The program is also intended to promote maximum safe use of U.S. waterways.



Since World War II, the popularity of recreational boating has increased steadily. There are currently more than 14 million recreational boats in the United States (58). The increase in recreational boating has created concern for boating safety. Deaths resulting from recreational boating accidents are second only to highway deaths among all modes of transportation.

In 1939, the Coast Guard Auxiliary was established to assist the Coast Guard in promoting boating safety. The Motorboat Act of 1940 mandated equipment requirements and sanctions for negligent operation. The Federal Boating Act of 1958 required boat numbering and encouraged State participation. In 1971, the Federal Boating Safety Act was enacted to provide a comprehensive national boating safety program. It established non-commercial boat construction and performance standards and also encouraged State participation by authorizing a financial assistance program to induce cooperation. The Federal Boating Safety and Facilities Improvement Act of 1980 initiated a State grant program to promote boating safety and facilities improvement.

The basic authority for the Coast Guard's conduct of the recreational boating safety program is contained in the Federal Boating Safety Act of 1971. The legislation provides for a comprehensive national boating safety program with three main objectives: cooperative Federal and State boating and safety programs; improved boat design and construction; and flexible regulation of boat operation. In conducting the recreational boating safety program, the Coast Guard enforces manufacturer compliance with Federal construction and performance standards, educates the boating public, and enforces boating safety laws.

#### Commercial Vessel Safety Program

The U.S. Coast Guard administers the Commercial Vessel Safety (CVS) Program. The program dates from the early 1800's, when the introduction of steam propulsion into ships escalated the number and severity of marine-related accidents. In order to stem the loss of life and property and reduce injury, the Federal government has broadened its regulatory role in commercial vessel safety.

The Coast Guard's responsibility for the commercial vessel safety program is grounded in many statutes. Most of the laws governing the commercial vessel safety program are contained in Title 46 of the U.S. Code, with additional authority contained under Titles 14, 18, 19, 33, 43, and 47.

Title 46 contains such program elements as: material safety standards for design and construction of vessels and equipment on vessels which are subject to inspection laws; material safety standards for maintenance of inspected vessels; material safety standards for documented uninspected commercial vessels; enforcement of vessel/material safety standards for foreign commercial vessels subject to U.S. jurisdiction; development and establishment of various safety standards, such as loadlines for vessels, living accommodations on commercial vessels, standards for pilots, minimum complement of crewmembers, number of deck officers necessary for safe navigation, licenses for various classes of officers, and enforcement of officer competency; investigation of marine accidents; admeasurement of commercial vessels; and administration of vessel documentation laws.

The Commercial Vessel Safety Program is conducted from 51 field offices throughout the United States and in foreign locations. The CVS program is executed by 1,667 Coast Guard and civilian personnel (70).

#### Waterways Management Program

The Waterways Management (WWM) Program is intended to promote a high degree of operational safety in U.S. ports and waterways. The specific objectives are: safeguarding persons, vessels and the marine environment in the nation's ports, waterways, and offshore approaches from accidental obstruction damage, or loss as a result of vessel mishaps; and promoting safe and expeditious marine transportation in U.S. ports and waterways.

The authority for the Coast Guard's Waterways Management Program is vested in the Waterways Safety Act (P.L. 93-340, 86 Stat. 424). This Act, enacted in 1972, declared that navigation and vessel safety and protection of the marine environment are matters of major national importance, that increased

vessel traffic in the nation's ports and waterways creates substantial hazard to life, property, and the marine environment; and that increased supervision of vessel and port operation is necessary.

The Waterways Management Program employs a broad range of vessel traffic management techniques to achieve the objectives of the legislation. Vessel traffic management is both active and passive.

Active vessel traffic management occurs when personnel not on board a vessel become directly or indirectly involved in its operation. The Ports and Waterways Safety Act authorized the Coast Guard to establish and operate vessel traffic services--active management systems that have been developed and installed by the Coast Guard in a number of U.S. ports and waterways over the past decade.

Passive traffic management includes use of "rules of the road," regulations requiring adherence to traffic separation schemes, speed restrictions, size limitations, operational use of radio for exchange of navigational information between ships, and restriction of operation to those vessels with particular operating characteristics and capabilities.

#### **Enforcement of Laws and Treaties**

The fourth major Coast Guard responsibility concerns ocean operations performed as part of a general law enforcement function of the agency and operations in support of other general national ocean activities. In its conduct of these programs, Coast Guard cutters and aircraft patrol the high seas and waters in U.S. jurisdiction to enforce international agreements and U.S. laws, and to perform ice patrol and ice breaking operations. The Coast Guard also supports marine science operations on a cooperative basis with other agencies. Enforcement of the 200-mile U.S. fishing limit is a principal activity within this general area of responsibility.

The Coast Guard has served as the principal Federal agency for maritime law enforcement for almost 200 years. It is the world's largest marine police

force, carrying out a wide range of enforcement duties in U.S. waters and on the high seas. Recent events and legislative developments have reinforced the law enforcement mission of the Coast Guard.

The Coast Guard's responsibility for enforcement of laws and treaties (ELT) is currently divided between two areas: general law enforcement, and enforcement of conservation regulations of fisheries and other marine living resources.

General law enforcement involves marine interdiction of controlled substances, enforcement of U.S. immigration law and policy, miscellaneous Federal laws regarding vessel theft or hijacking, and criminal activities and laws pertaining to smuggling and neutrality.

Enforcement of laws and treaties for the protection of living marine resources (fisheries) is designed to regulate fishing. Both the Coast Guard and the National Marine Fisheries Service (NMFS) have been assigned additional responsibilities for enforcing fishery conservation laws in U.S. waters.

The Fishery Conservation and Management Act of 1976 (FCMA) was a comprehensive, unilateral action taken by the United States to establish a conservation program for fish stock within the 200-mile Fishery Conservation Zone (FCZ). As part of its law enforcement mission, the Coast Guard patrols and conducts surveillance of active fishing grounds, and may board both foreign and domestic fishing vessels to ensure compliance with the FCMA and international fishing treaties. The Coast Guard also cooperates with other Federal agencies, such as the NOAA, to protect marine mammals, conserve endangered species, and preserve Federally designated marine sanctuaries.

#### Domestic and Polar Ice Operations Program

The ice operations program of the Coast Guard is separated into domestic and polar operations. Domestic icebreaking is conducted to provide assistance to waterborne commerce and relieve or prevent the dangers of flooding caused by ice accumulation in waterways. Traditionally, ice breaking assistance has been

necessary on the Great Lakes, in northeastern U.S. ports and waterways, and in Alaskan waters.

The polar ice operations program is intended to support and encourage national interests in polar regions by providing an ice-transiting capability. The polar ice operations program allows access to polar regions by other governmental agencies and by private organizations for purposes deemed to be in the national interest. An example would be supply vessels for Department of Defense facilities in the Arctic and National Science Foundation Facilities in the Antarctic.

The Coast Guard is authorized to perform domestic icebreaking services by Title 14 of the U.S. Code, Sections 2 and 93 (a). This service has been provided by the Coast Guard since 1936, when Executive Order 7521 was issued to facilitate maritime commerce in New England waters during an abnormally cold winter.

To conduct these operations, the Coast Guard operates a fleet of buoy tenders and tugs with icebreaking capabilities. In Fiscal Year 1981, domestic icebreaking operations were budgeted at \$13.2 million. Personnel involved in domestic icebreaking number approximately 450, including 352 military personnel directly involved and stationed on icebreakers (58).

#### Marine Science Activities Program

The marine science activities program of the U.S. Coast Guard embraces a wide variety of activities that may be categorized as operating, support, and cooperative programs. The basic objectives of the program are to provide marine science support to all Coast Guard programs and to support other national needs. The marine science activities program is comprised of eight elements: the International Ice Patrol; oceanographic cruises; oceanographic services; ice operations support services; marine environmental protection support services; NOAA Data Buoy Office (NDBO) support; weather observation and reporting; and cooperative services. Cooperative services engage the Coast

Guard in joint projects with other Federal agencies where marine science expertise and resources are required.

The basic authority for the Coast Guard's marine science activities stems from Title 14, Section 2 of the U.S. Code, which mandates that it "shall engage in oceanographic research on the high seas and in waters subject to the jurisdiction of the United States." Additional and more specific authority is contained in Title 14 of the U.S. Code, Section 94.

The marine science activities program is conducted with approximately 460 people, 358 of whom are directly involved in marine science activities. The remainder provide general support to the program. In Fiscal Year 1981, the MSA program budget was \$14.4 million, including general overhead and support.

#### **Marine Environmental Protection**

Marine environmental protection, the fifth major civil responsibility of the Coast Guard, has expanded quickly in recent years and emerged as a major mission. It is a task that developed largely as a result of the Coast Guard's general responsibility for enforcing Federal maritime laws. Gaining its authority from numerous statutes, the Coast Guard has the duty to carry out programs to prevent damage to the marine environment and improve overall environmental quality. The Coast Guard also conducts related activities to secure and protect U.S. ports and waterways, with the objective of improving the economic use of the U.S. water transportation system and assuring its availability in time of national emergency.

As a result of several legislative acts, including the Espionage Act (1917), the Magnuson Act (1950), and the Ports and Waterways Safety Act (1972), the Coast Guard enforces regulations related to port safety. These regulations focus on waterfront facility safety, movements and anchorage of vessels with hazardous cargos, and the safe stowage of explosives and other dangerous cargos. These responsibilities require inspections by Coast Guard personnel assigned to Marine Safety Offices or reporting to the Coast Guard Captain of the Port.

Marine environmental protection responsibilities are governed by the Port and Tanker Safety Act (1978), the Federal Water Pollution Control Act of 1972, as amended, the Outer Continental Shelf Lands Act Amendments of 1978, the Deepwater Port Act (1974), and the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA). These laws encompass the prevention and detection of accidental or intentional discharges of oil, hazardous substances, pollutants and contaminants into the environment. Under these laws, the Coast Guard has the responsibility to assure that spills are cleaned up wherever they occur, to investigate the causes for spills, and to assess penalties for violations.

#### **Military Operations/Military Preparedness/Reserve Training**

The sixth major functional responsibility, a primary one, is to be prepared to serve under the Navy during war or in national emergencies. The Coast Guard was established as an armed service by legislation enacted in 1915, and its predecessor agency, the Revenue Marine Cutter Service, had held that status since 1799.

Under Title 14 of the U.S. Code, the Coast Guard is at all times a military service, and a branch of the Armed Forces within the Department of Transportation except when operating as a part of the Navy. The Code provides that it shall maintain a state of readiness to function as a specialized service in the Navy in time of war. Title 14, Section 145 requires the Secretary of Transportation to provide for wartime readiness of the Coast Guard during peacetime.

The Coast Guard has two general types of defense-related responsibilities. The first is to provide combat and combat support, including antisubmarine warfare, inshore undersea warfare, convoy escort, search and rescue services in support of military forces, operation of electronic navigation systems, ice breaking operations in polar regions in support of military operations, and maintenance of aids to navigation in war zones and theaters of operation. The second type encompasses port safety and security, commercial vessel safety, and aids to navigation in U.S. waters. All Coast Guard military personnel may be

subject to assignment to combat or combat support duties. Moreover, the Coast Guard Reserve may be called on to augment active duty personnel during crises.

### **Other Coast Guard Responsibilities**

In addition to the principal programs discussed above, the Coast Guard has other duties that require manpower and financial resources. These include administration; capital investment planning; capital equipment maintenance and readiness; and research, development, test, and evaluation regarding future needs.

### **Coast Guard's Current Ability to Meet Its Responsibilities**

The first section of this chapter acquainted the reader with the multitude of U.S. Coast Guard programs and their statutory underpinnings. It should be clear at this point that the Coast Guard wears numerous hats in the discharge of its duties. These duties have increased dramatically in the past 12 years, without a concomitant increase in either budgetary or personnel resources. Figures 3 and 4 graphically depict the histories of Coast Guard budget and personnel resources. "The total Coast Guard funding during the past decade has increased by almost a factor of three in current year dollars. However, as a result of inflationary factors such as higher salary, fuel, and construction costs, the real funding level has been fairly constant" (58).

Table 11 presents a compilation of the more significant legislation enacted in the past 12 years that has significantly added to the responsibilities of the U.S. Coast Guard. Most of these statutes are further detailed in Appendices B and E. The programs most affected by these legislative actions are those directed to enforcement of laws and treaties and marine environmental protection. These increases in responsibility come at a time when another basic Coast Guard program, search and rescue, is being strained by increases in recreational boating (see Chapter 3) and other forms of marine transportation. It should be pointed out that Executive orders have also contributed to the growing strain on the Coast Guard's fiscal and personnel resources. These



Figure 3. U.S. Coast Guard 10-Year Resource Plan

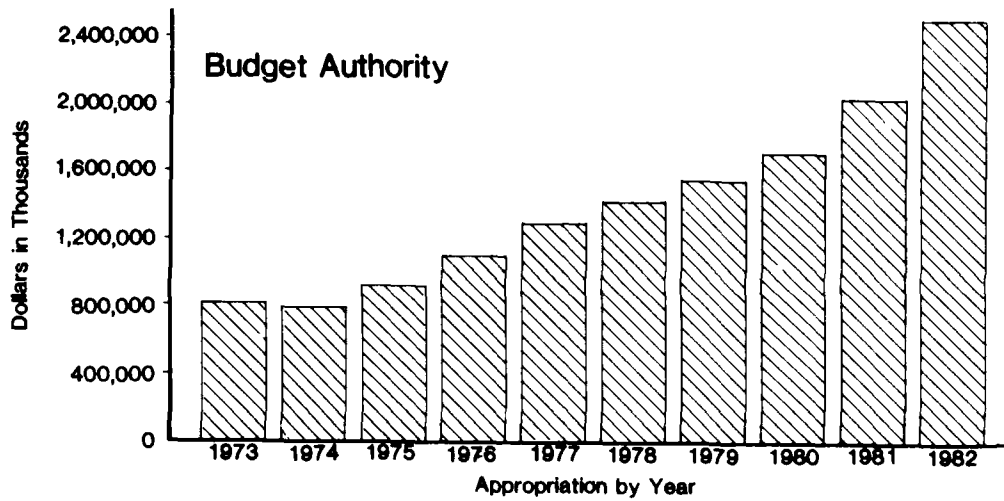
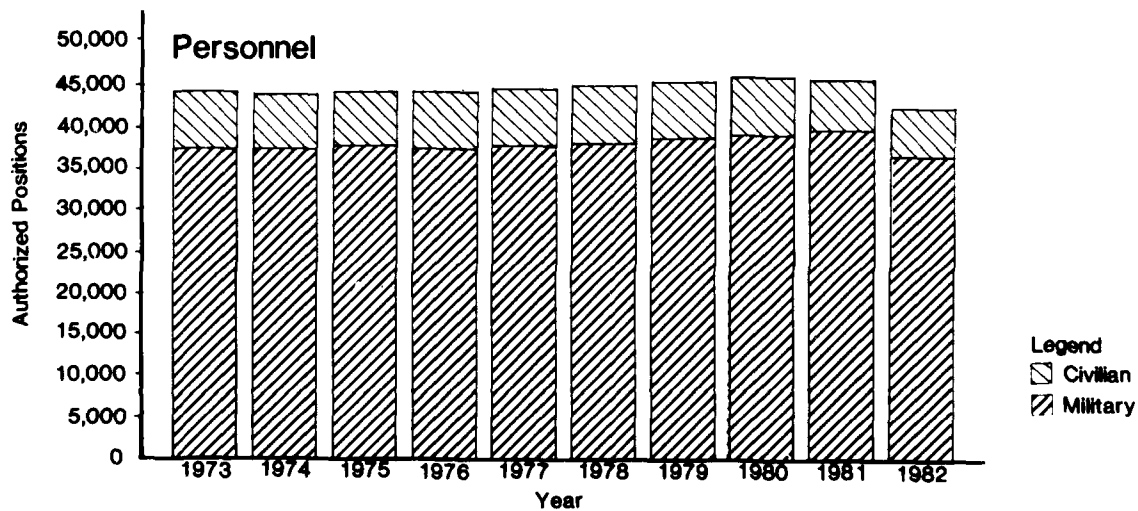


Figure 4. U.S. Coast Guard 10-Year Resource Plan



Source: Coast Guard Roles and Missions, U.S. Dept. of Transportation, 1982.

Executive Orders have focused predominantly on the prevention of illegal immigration and drug interdiction missions of the Coast Guard.

**Table 11. Significant Statutory Additions to Coast Guard Responsibilities**

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1970 - Water Quality Improvement Act (P.L. 91-224)
1971 - Federal Boat Safety Act (P.L. 92-75)
1972 - Port and Waterways Safety Act (P.L. 92-340)
- Marine Protection, Research and Sanctuaries Act (P.L. 92-532)
- Federal Water Pollution Control Act (P.L. 92-500)
1974 - Deepwater Port Act (P.L. 93-627)
1976 - Fishery Conservation and Management Act (P.L. 94-265)
1977 - Clean Water Act (P.L. 95-217)
1978 - Outer Continental Shelf Lands Act Amendments (P.L. 95-372)
- Port and Tanker Safety Act (P.L. 95-474)
1980 - Deep Seabed Hard Mineral Resources Act (P.L. 96-283)
- Ocean Thermal Energy Conversion Act (P.L. 96-36)

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The potential for over-committing the Coast Guard was foreseen early in this period of marine legislation growth--for example, in 1974, by NACOA in its "Third Annual Report to the President and Congress." However, it was not until issuance of the 1980 GAO report, "The Coast Guard--Limited Resources Curtail Ability to Meet Responsibilities," that serious Congressional and Executive branch attention began to focus on this problem. The focus sharpened in late 1981 and early 1982.

In December, 1981, the House Committee on Merchant Marine and Fisheries, Subcommittee on Coast Guard and Navigation issued its general oversight report, "Semi-Paratus: The United States Coast Guard, 1981". This was followed by two additional reports, issued almost simultaneously in March, 1982, which similarly focused on Coast Guard responsibilities and resource shortages.

The first of these reports, "The U.S. Coast Guard," was prepared by the Congressional Research Service for the Senate Committee on Commerce, Science, and Transportation. The second, "Coast Guard Roles and Missions," was issued by the Department of Transportation, and conducted in cooperation with the U.S. Coast Guard, the Department of Defense, and the President's Office of Management and Budget. NACOA undertook an evaluation of the aforementioned U.S. Coast Guard studies in February, 1982, in an effort to present its advice on the recommendations made in these reports to the President and Congress. These studies are the subject of the following section.

### **The Future: Recommendations on Coast Guard Roles**

As the "Semi-Paratus" report notes, few would disagree that the Coast Guard is "either seriously over-burdened, seriously under-funded, or both." Such unanimity of opinion would seem to indicate that some action might soon be taken to remedy the situation. Each of the reports discussed had its recommendations as to how remedial actions should proceed. This section presents a summary of the general recommendations of these reports for the categories of manpower, budget, and responsibilities. Further, since many of the current problems faced by the Coast Guard are rooted in a budgetary resource shortage, two specific, higher-visibility recommendations are discussed: user fees, and transfer of the Coast Guard to the Department of Defense.

In the current Coast Guard dilemma, manpower and budgetary shortages and the addition of statutory responsibilities are complexly intertwined. The following sections briefly review these three categories and indicate their magnitudes.

#### **Manpower**

As mentioned earlier, real budgetary appropriations to the Coast Guard, after accounting for increases in the costs of salaries, fuel, and construction, have remained relatively constant over the past decade. This is not the case with Coast Guard personnel. In fact, there has been a slight decline in the overall number of Coast Guard personnel in the period from 1973 to 1982 (see

Figure 4). The addition of new responsibilities without concomitant fiscal resource increases has left the Coast Guard in a situation where "...personnel are undertrained for required tasks, people are required to work excessive overtime, and large numbers of experienced personnel are leaving the Coast Guard" (62). Additionally, many of the legislative authorities accrued by the Coast Guard over the past 12 years carry significant regulatory and administrative responsibilities. As a result, actual seagoing roles have suffered from a lack of adequate staffing. In some cases, adequate crew size cannot be mustered even for the ships, planes, and helicopters that are operational.

In 1980, the Coast Guard estimated that in the coming decade it would need 14,600 additional personnel to maintain its current level of service to the nation, and an increase of 35,000 people to meet its responsibilities optimally by 1991 (62). The effectiveness of the Coast Guard is determined not only by the sheer numbers of personnel, but also by the experience of these people.

In its 1980 study of the Coast Guard, the General Accounting Office found not only personnel shortages, but a declining retention rate among enlisted personnel. In the Fiscal Years 1976 to 1979, reenlistment dropped approximately 13 percent among first tour personnel and approximately 23 percent among those having more than one tour (62). The primary reasons for the declining retention rate, concluded GAO, were low pay and long working hours. It has also been noted that the accumulation of region- and job-specific expertise is deterred by the rotation of Coast Guard duty personnel from district to district. Limited or less frequent rotation, while detracting from the Coast Guard's objective of developing well-rounded officers, would promote greater efficiency and, perhaps, effectiveness. While all of the recent studies recognized the manpower shortage problem, particularly in SAR and ELT missions, no strong, direct recommendations were made to alleviate this problem. It was suggested that perhaps recent pay raises for military personnel would stem the decline in reenlistment. Several of the studies also recommended that higher priority be given to training, particularly in the ELT mission, to increase the Coast Guard's preparedness for central duties.

## **Budgetary Shortages**

The 1980 GAO review indicated that because of budgetary limitations, alternatives to optimal performance of all existing responsibilities should be pursued. Though the current focus on the plight of the Coast Guard may result in some immediate fiscal relief, the GAO prognostication may well reflect long-term trends toward lower funding not only for the Coast Guard, but for marine programs in general.

The CRS study of the Coast Guard indicates only two options as solutions to this problem. The Coast Guard can either shed itself of selected responsibilities and establish priorities for its remaining roles, or continue to cope as well as it can with existing resources. This last option forces a drain on both personnel and capital plant--but it is the way the Coast Guard has been coping with its problems for the past several years. As witnessed by the flurry of Congressional and Executive branch activity, some change is needed.

The particular option(s) pursued will determine what action must be taken with respect to both personnel and capital plant. The overall capital plant of the Coast Guard is in a deficient and aging state. There are serious problems with shoreside facilities and the size and capabilities, not to mention age, of the Coast Guard cutter fleet. The options pursued, and hence budgetary requirements, depend on which roles the Coast Guard will continue to perform and what level of performance will be required in their conduct. Only when these decisions are firmly established will the budget requirements be clarified.

## **Responsibilities**

The point is clearly made in all four studies that in the past 10-12 years the increased responsibilities of the Coast Guard, have outpaced its ability to increase its budget accordingly. Federal budget outlays are likely to remain at more austere levels in the future. Therefore, it seems apparent that the Coast Guard will have to base its future roles and missions with this in mind. A recommendation made in all four of the relevant studies, was to eliminate some of the lower priority missions from the Coast Guard roster, either through

delegation or deletion. Additionally, a suggestion has been put forward that the Coast Guard utilize contractors in circumstances where it does not have the resources to adequately carry out its duties. Utilization of contractors, though not always a cost-saving option, would free up obligated personnel. Contractors will, however, probably be used only in selected situations where this option would accrue a cost savings. Implementation of either of these recommendations would allow the Coast Guard to reprogram personnel, fiscal, and capital resources to higher priority programs.

While there may be some agreement that the Coast Guard should divest itself of some responsibilities, there is no unanimity on which of these to eliminate or transfer. The only proposal accorded anything close to general agreement is some modification to Coast Guard duties in the Commercial Vessel Safety Program (CVS). Another proposal with some support is that Coast Guard responsibilities for bridge administration be turned over to the Army COE or the Federal Highway Administration. This transfer has been authorized by an authorization/appropriation bill now in Congress. Another proposal suggests that the Coast Guard Waterways Management Program (WWM), composed principally of manning and operating vessel traffic service (VTS) systems, be transferred to State or local agencies. Even if all three of these proposals were embraced in their entirety, and the programs eliminated or transferred--an extremely unlikely event in the face of opposition from the Coast Guard itself--except in the case of the Bridge Administration Program, the Coast Guard would realize only an approximate 6 to 7 percent savings, based on total Fiscal Year 1982 program costs (See Table 10).

By far the largest Coast Guard program areas are Search and Rescue (SAR), Enforcement of Laws and Treaties (ELT), and Short Range Aids to Navigation (SRAN). These three areas accounted for 25.5, 22, and 16.3 percent, respectively, of the Coast Guard's Fiscal Year 1982 budget. While there may be room for some additional savings, no serious proposals have been made for significantly altering Coast Guard responsibilities in these areas. Suggestions for saving in these programs focus on coordinating activities with Federal, State, local, and private concerns, utilizing cost-effective advanced technologies, and utilizing contractors when necessary to prevent overload. Contractors will

probably be employed primarily in SRAN, in instances where costs would be favorable--for example, buoy tending in remote areas following major storms.

As brought out in the introduction to this section, the Coast Guard's personnel and capital plant shortages problems are deeply interwoven with budgetary constraints. Two proposals have been made to ease this budgetary pressure: the application of user fees to selected activities, and transfer of the Coast Guard to the Department of Defense. These two proposals are reviewed in the following sections.

### **User Fee Application**

"Enactment of carefully drawn user fee legislation would, if accompanied by increased funding for selected Coast Guard missions and a reduction of responsibilities in other areas, achieve the important twin goals of strengthening the Coast Guard while minimizing the extent to which Federal expenditures are required." This quote from the 1981 "Semi-Paratus" report is representative of the general conclusions and recommendations of the GAO, DOT, CRS, and MM&F reports. Though each of the four reports broaches the subject of user fees, none does more than present this as an option meriting further study. The basic concept is that user fees could be imposed on clearly identifiable groups for selected direct services provided by the Coast Guard.

Coast Guard services identified by these various studies as meriting further examination for user fee application are: selected duties in Search and Rescue; inspections in the Commercial Vessel Safety and Marine Environmental Protection programs; Short Range Aids to Navigation; and Recreational Boating Safety--wherein the proceeds would be forwarded to participating coastal States. The Reagan Administration, as of this writing, has publicly supported the concept of user fees for Coast Guard Services and made two separate proposals for Congressional consideration. Neither proposal has received a warm welcome.

Though the user fee concept still appears to be in its formative stages, the general acceptance it has mustered bodes favorably for the eventual adoption of some variation. Both Congress, through hearings, and the Administration,

through informal communication with affected parties, are attempting to refine the concept for its application and use by the Coast Guard. It is important to note that unless monies derived from user fees for Coast Guard services are directed back to its budget as a supplement--not a replacement--these fees will not aid the Coast Guard in resolving its current dilemma. Proposals to utilize user fees for a broad array of governmental ocean service and permitting activities are gaining support.

### **Organizational Assignment of the Coast Guard to the Department of Defense**

In the search for solutions to the Coast Guard's fiscal problems, suggestions have been made to move the Coast Guard into the Department of Defense. These proposals have assumed different forms, but the general concept will be discussed here. The most formal of these proposals was made by the introduction of a Congressional bill, H.R. 4996 (97th Congress). No Congressional action has been taken on this bill to date. NACOA has held a briefing with Congressional staff for its members.

Much of the basis for these proposals stems from the para-military nature of the Coast Guard. In addition, it has been argued that the Coast Guard could benefit from the fiscal resources and management and logistics experience of the Navy. Opponents of such a reorganization argue that the Coast Guard would not fare well in budgetary competition within the Department of Defense, because of its relatively small size. Additionally, opponents argue, the "white ship" character of the Coast Guard would be lost by a move in the direction of militarization.

The Coast Guard gained some assistance from the Department of Defense when Public Law 97-86 was enacted. This amendment to the Department of Defense authorization for appropriations allows the military to assist the Coast Guard in its drug law enforcement interdiction program. The exact form of this assistance has not yet been set, but it will probably come at first as increased intelligence and surveillance capabilities.



In this brief review of the future of Coast Guard roles and missions, several trends become apparent. Some combination of actions must be taken in order to ease the budgetary and resource shortage pressures on the Coast Guard. Because of Federal budget austerity, expanded appropriations probably do not present the long-term solution. A more likely answer within the next twenty years combines paring of present Coast Guard responsibilities, contracting with state, local, or private concerns where appropriate, and instituting some user fee schedule. Since it appears that major Coast Guard roles are unlikely to be eliminated in the near future, the regulatory authorities for these programs will continue. The Coast Guard should thus try to allow regional flexibility in each District, so that programs may be tailored to individual circumstances.

The remaining section of this chapter examines Coast Guard participation in future efforts to coordinate governmental ocean management, specifically representation of the Coast Guard in the hypothetical Federal Marine Affairs Council and the Regional Ocean Management Councils. Lastly, this section will look at the future of specific Coast Guard roles in the Gulf of Maine.

#### **Coast Guard Role in the Regional Ocean Management Process**

The Coast Guard would have three principal roles in the Gulf of Maine regional ocean management process. Two roles are planning and advisory, based on participation in the Marine Affairs Council and the Regional Ocean Management Council for the Gulf of Maine. The third role is functional, in that the Coast Guard would continue to carry out its statutorily mandated and authorized missions.

#### **Marine Affairs Council**

The Marine Affairs Council, as proposed, would be the principal Federal coordinating body for promoting national marine policy and planning. As such, the council would constitute the lead agency for national ocean management affairs. Through its delegates, i.e., those Secretaries and Administrators whose agencies have significant ocean programs, the Marine Affairs Council, together with Congress, would manage ocean resources and activities.

U.S. Coast Guard representation on the Marine Affairs Council would be through the Secretary of Transportation. The Coast Guard would have additional indirect representation on the Council through its participation and representation in various advisory groups and committees, such as NACOA and FCCSET. To the extent that these advisory bodies influence the direction of policy and planning, the Coast Guard's position on specific issues will be brought to bear on ocean management initiatives. Finally, the Marine Affairs Council will be a forum through which the various Congressional committees representing the Coast Guard's interests may channel information.

### **Regional Ocean Management Council**

The Regional Ocean Management Council, as proposed, would be the principal regional ocean management coordinating body for the Gulf of Maine (New England) region. As the regional counterpart to the National Marine Affairs Council, it would be the principal forum for the presentation, debate, and resolution of regional issues. These two bodies will coordinate Federal, regional, and State programs for ocean management.

It is envisioned that the District Commandant would be the Coast Guard representative on the Regional Ocean Management Council. The Coast Guard's interests would be indirectly represented at the regional level by its participation in advisory groups. For example, the Coast Guard participates in the Regional Technical Working Group (RTWG) of the Minerals Management Service. The RTWG is an intergovernmental planning group whose principal function is to advise on transportation strategies for OCS oil and gas. The Coast Guard also holds positions in other consultative organizations, including the regional components of the National OCS Advisory Board's Scientific and Policy Committees.

### **Specific Functional Roles in the Gulf of Maine**

The Coast Guard's functional role in the Gulf of Maine region over the next 25 years, while likely to reflect a continuation of its traditional missions and

responsibilities, will require specific responses to accommodate changing ocean uses. When an ocean management plan is implemented, Coast Guard participation in the ocean management process will not require a major organizational change, either nationally or in the Gulf of Maine Region. Specific Coast Guard roles in the Marine Affairs Council and the Regional Ocean Management Council have already been outlined. An analysis of Coast Guard functional roles in the Gulf of Maine in the foreseeable future may be based on specific assumptions concerning its future structure and placement within the Federal governmental organization. Furthermore, the Coast Guard's functional responsibilities may be analyzed in light of anticipated future changes in ocean resource use in the Gulf of Maine.

#### Assumptions

The major assumptions regarding the future roles and missions of the Coast Guard are contained in the oversight reports mentioned earlier. These assumptions are important because they are broadly indicative of the Coast Guard's role in future ocean management. Based on the findings of those reports, it is safe to conclude that the Coast Guard will continue as the principal marine service organization in the U.S. However, the Coast Guard, while functioning as an integral component of the entire ocean management process, will not become the single lead agency for a future ocean management plan, nor will any other single agency. The existence of multiple agencies, each having marine-related programs or mandates, underlies the rationale for a National Marine Affairs Council to coordinate and carry out their programs and mandates. The realization that no single agency will be created or authorized to manage the broad spectrum of ocean resources suggests the appropriateness of a dual organization composed of the Marine Affairs Council and the Regional Ocean Management Council.

It is anticipated that the U.S. Coast Guard will continue to function as an armed service, and as an element of the Department of Transportation in peacetime. It may also be anticipated that the Coast Guard will continue to perform its traditional roles and carry out its mandated and authorized functions. These traditional responsibilities will undergo some streamlining, and

the Coast Guard may be relieved of some burdensome responsibilities. For example, Coast Guard involvement in the Bridge Administration Program may be limited to waterways of major significance to interstate and foreign commerce. Responsibility for the detailed aspects of bridge administration is likely to shift back to the ACOE, along with the Federal Highway Administration, through revised interagency agreements or passage of recently introduced legislation.

In the case of the Waterways Management Program, the Coast Guard could turn Vessel Traffic Service operations over to a State or local organization willing and able to assume the responsibility, while maintaining general supervision. Unnecessary Vessel Traffic Service installations which State or local authorities are unwilling to take over could be closed, unless the Secretary of Transportation determined that their continuance is necessary to the national interest.

Few Coast Guard responsibilities may be phased out because of legal mandates for its missions. The necessity and demand for its broad range of services make the Coast Guard likely to continue as the paramount marine service organization within the Gulf of Maine and nationally. The Coast Guard also remains a key component of the future ocean management plan.

### **Responses To Specific Uses**

Specific ocean developments within the Gulf of Maine in the foreseeable future will require Coast Guard response. The Gulf of Maine will experience an increase in activity levels of specific ocean uses, including fisheries; OCS oil and gas operations; recreational boating and fishing; energy transportation, specifically coastwise coal transshipment and tanker movement; and port and waterway traffic.

Fishing in the Gulf of Maine, especially on Georges Bank, will remain a principal activity. The relative composition of the fishing operations in the region should change with the prospect of expanding the U.S. share by regulating the foreign catch. This should result in a decline in the number of foreign

vessels. Current regulations allow the placement of a U.S. observer on foreign vessels engaged in fishing within the 200-mile FCZ. This should reduce the need for routine Coast Guard boardings of foreign vessels for compliance monitoring. At-sea enforcement by the Coast Guard will still be essential for effective fisheries management and assuring compliance with regulations. Domestic fisheries enforcement is primarily conducted through dockside inspection by NMFS. The decline in foreign fishing in the region, coupled with dockside enforcement by NMFS, should reduce the Coast Guard role in fisheries enforcement. A larger Coast Guard response has been required in recent years with the establishment of the 200-mile FCZ; the probable U.S. declaration of a 200-mile exclusive economic zone would broaden the scope of the Coast Guard's law enforcement responsibility within the already large geographic jurisdiction of the FCZ.

The emphasis on OCS oil and gas exploration in the Gulf of Maine will increase in the future. The addition of more drilling equipment to the region will increase the Coast Guard's role in vessel safety inspection and environmental compliance. The increase in vessel traffic moving between offshore rigs and shore-based facilities will require a Coast Guard response to ensure vessel traffic safety within the region. The Coast Guard can accomplish this by augmenting the District's Aids to Navigation Program.

A future steady increase in recreational boating and fishing may be anticipated in coastal New England. This will require the Coast Guard to review its long-term ability to ensure a safe environment for boating enthusiasts and anglers through its Recreational Boating Safety Program.

New England's general lack of naturally occurring fossil fuels and other traditional energy resources means a continuing reliance on fuel imports. Fuel supplies are likely to arrive as coal transshipments from elsewhere in the United States, or as oil and liquified natural gas (LNG) in tankers from foreign locations. Large numbers of fuel-laden vessels will increase concern over port and waterways congestion as well as concern for hazardous cargo, especially the volatile LNG. The Coast Guard will need to review the adequacy of its Marine Safety Programs to accommodate these developments.

Finally, the general increase in port and waterway traffic that can be anticipated over the next 25 years will require an additional effort to ensure all facets of port and waterways safety and management. The trend toward the use of larger ports and concomitant de-emphasis on smaller ports, which is certain to continue if user fees are imposed, will further intensify traffic and congestion, by directing more vessels into fewer ports. The Coast Guard may thus be required to revise its vessel traffic management strategies and capabilities.

## CONCLUSION

This study was undertaken in response to growing recognition of the problems inherent in the U.S. approach to ocean management that has evolved over the past 35 to 40 years. During this time the U.S. and many other nations have devoted considerable resources and time to understanding, beneficially utilizing, and delimiting jurisdiction over the oceans. In examining the history and trends in U.S. efforts to manage its ocean resources, it becomes clear that we have both the need and the opportunity to appraise our current approach and determine where improvements can be made.

An appraisal is needed due to a combination of factors. The current framework for U.S. ocean management efforts, both in Federal and State government, has resulted in great complexity in the administration of ocean and coastal programs. Many programs have been adopted and implemented incrementally, within a bewildering variety of government agencies. This incremental evolution has resulted in a diffused focus of authority, which has in turn led to confusion among the public, private and governmental entities concerned with various facets of ocean utilization. The often-touted problems of overlaps and gaps in governmental program responsibility are real. They present inefficiencies that should not be accepted as unavoidable, in light of constrained budgetary resources.

The lack of a clear focus for ocean management authority is caused largely by the absence of a directed planning effort. No concerted action has been taken to identify national ocean goals and objectives or create an agenda for accomplishing the disparate goals enacted legislatively in the past 10 to 12 years. This conspicuous lack of action prevents the U.S. from expediently accomplishing any ocean goals or objectives. The costly history of OCS hydrocarbon development bears witness to this.

Mere need will not always initiate remedial action when a problem presents itself; timing is critical. Recent international and domestic developments have

created the opportunity to undertake remedial action, and provide the framework in which to initiate a new, comprehensive approach to U.S. ocean management. Internationally, the development of a consensus on limits to national jurisdiction over ocean space, pre-eminently the 12-n.m. territorial sea and 200-n.m. exclusive economic zone, is helping to establish a jurisdictional framework for ocean management by coastal nations. Domestically, the renewed emphasis on realigning Federal-State relations and responsibilities adds direction to the evolution of U.S. efforts to manage its ocean resources.

Recognizing the history of previous attempts to reorganize the U.S. ocean management framework, this study has made several recommendations based on the assumption that no serious attempts will be made to centralize ocean program responsibility at the Federal level. Locational inertia, cost considerations, and the growing call for decentralization of some Federal responsibilities buttress this assumption.

With that premise in hand, the study proposes bifurcated action to improve ocean program coordination and establish a clear focus of authority for policy promulgation. At the Federal level, it proposes legislative establishment of a Marine Affairs Council, an expanded version of the previous Marine Sciences Council, housed in the Office of the President and chaired by the Vice-President. On the Federal level, the two sole promulgators of ocean policy would thus be the Congress and the Marine Affairs Council. The powers and composition of the Marine Affairs Council are detailed within the study.

Instead of a complete decentralizing of programmatic responsibility for ocean resources and uses to the States, this study proposes that a series of Regional Ocean Management Councils be legislatively established and tied to the Federal Marine Affairs Council. The Regional Ocean Management Councils would have the responsibility of tailoring national ocean programs to regional realities through consensus development, with the participation of affected coastal State Governors and regional Executive Branch Administrators.



Recommendations on composition and purview of the Regional Ocean Management Councils are presented within the body of this study.

Since it is unlikely that any existing government agency will assume the role of leader in marine affairs, it is necessary to reappraise existing ocean agencies' future roles. This study examined the future role of the Coast Guard, as a relevant, representative ocean agency, in this proposed process, particularly in the Gulf of Maine region.

A number of recent studies of the Coast Guard have made it clear that its primary roles and missions are not likely to undergo radical alteration in the future. However, the relative importance of these roles will vary regionally. For the U.S. Coast Guard's First District, in the Gulf of Maine, there will be an accentuation of the two most readily recognizable Coast Guard roles--search and rescue coordination, and marine police enforcement of laws and treaties. Depending on the magnitude of future OCS exploration and development/production, and maritime commerce, the Coast Guard's marine environmental protection mission will also gain added significance in this region.

The current focus on Coast Guard activities makes three facts clear: it must be relieved of some of its more peripheral duties; it must make greater use of existing Federal, State, local and private resources in the discharge of its duties; and alternative funding mechanisms, such as establishment of user fees for some direct services to identifiable consumers, must be instituted. The Coast Guard has a proud history of service to the nation. If that history is to continue, its roles and missions must change--not dramatically, but in ways that will make this unique institution more diversified regionally.

## APPENDIX A

### PERTINENT TERRITORIAL SEA, CONTIGUOUS ZONE, AND EXCLUSIVE ECONOMIC ZONE PROVISIONS FROM THE THIRD UNITED NATIONS CONFERENCE ON LAW OF THE SEA CONVENTION PART II TERRITORIAL SEA AND CONTIGUOUS ZONE

#### SECTION 1. GENERAL PROVISIONS

##### Article 2

##### Legal status of the territorial sea, of the air space over the territorial sea and of its bed and subsoil

1. The sovereignty of a coastal State extends, beyond its land territory and internal waters and, in the case of an archipelagic State, its archipelagic waters, to an adjacent belt of sea, described as the territorial sea.
2. This sovereignty extends to the air space over the territorial sea as well as to its bed and subsoil.
3. The sovereignty over the territorial sea is exercised subject to this convention and to other rules of international law.

#### SECTION 2. LIMITS OF THE TERRITORIAL SEA

##### Article 3

##### Breadth of the territorial sea

Every State has the right to establish the breadth of its territorial sea up to a limit not exceeding 12 nautical miles, measured from baselines determined in accordance with this Convention.

##### Article 4

##### Outer limit of the territorial sea

The outer limit of the territorial sea is the line every point of which is at a distance from the nearest point of the baseline equal to the breadth of the territorial sea.

##### Article 5

##### Normal baseline

Except where otherwise provided in this Convention, the normal baseline for measuring the breadth of the territorial sea is the low-water line along the coast as marked on large-scale charts officially recognized by the coastal State.

##### Article 6

##### Reefs

In the case of islands situated on atolls or of islands having fringing reefs, the baseline for measuring the breadth of the territorial sea is the seaward low-water line of the reef, as shown by the appropriate symbol on charts officially recognized by the coastal State.

Article 7  
Straight baselines

1. In localities where the coastline is deeply indented and cut into, or if there is a fringe of islands along the coast in its immediate vicinity, the method of straight baselines joining appropriate points may be employed in drawing the baseline from which the breadth of the territorial sea is measured.
2. Where because of the presence of a delta and other natural conditions the coastline is highly unstable, the appropriate points may be selected along the furthest seaward extent of the low-water line and, notwithstanding subsequent regression of the low-water line, the straight baselines shall remain effective until changed by the coastal State in accordance with the Convention.
3. The drawing of straight baselines must not depart to any appreciable extent from the general direction of the coast, and the sea areas lying within the lines must be sufficiently closely linked to the land domain to be subject to the regime of internal waters.
4. Straight baselines shall not be drawn to and from low-tide elevation unless lighthouses or similar installations which are permanently above sea level have been built on them or except in instances where the drawing of baselines to and from such elevations has received general international recognition.
5. Where the method of straight baselines is applicable under paragraph 1, account may be taken, in determining particular baselines, of economic interests peculiar to the region concerned, the reality and the importance of which are clearly evidenced by long usage.
6. The system of straight baselines may not be applied by a State in such a manner as to cut off the territorial sea of another State from the high seas or an exclusive economic zone.

Article 8  
Internal waters

1. Except as provided in Part IV, waters on the landward side of the baseline of the territorial sea form part of the internal waters of the State.
2. Where the establishment of a straight baseline in accordance with the method set forth in article 7 has the effect of enclosing as internal waters areas which had not previously been considered as such, a right of innocent passage as provided in this Convention shall exist in those waters.

Article 9  
Mouths of rivers

If a river flows directly into the sea, the baseline shall be a straight line across the mouth of the river between points on the low-water line of its banks.

Article 10  
Bays

1. This article relates only to bays the coasts of which belong to a single State.

2. For the purposes of this Convention, a bay is a well-marked indentation whose penetration is in such proportion to the width of its mouth as to contain land-locked waters and constitute more than a mere curvature of the coast. An indentation shall not, however, be regarded as a bay unless its area is as large as, or larger than, that of the semi-circle whose diameter is a line drawn across the mouth of that indentation.

3. For the purpose of measurement, the area of an indentation is that lying between the low-water mark around the shore of the indentation and a line joining the low-water mark of its natural entrance points. Where, because of the presence of islands, an indentation has more than one mouth, the semi-circle shall be drawn on a line as long as the sum total of the lengths of the lines across the different mouths. Islands within an indentation shall be included as if they were part of the water area of the indentation.

4. If the distance between the low-water marks of the natural entrance points of a bay does not exceed 24 nautical miles, a closing line may be drawn between these two low-water marks, and the waters enclosed thereby shall be considered as internal waters.

5. Where the distance between the low-water marks of the natural entrance points of a bay exceeds 24 nautical miles, a straight baseline of 24 nautical miles shall be drawn within the bay in such a manner as to enclose the maximum area of water that is possible with a line of that length.

6. The foregoing provisions do not apply to so-called "historic" bays, or in any case where the system of straight baselines provided for in article 7 is applied.

#### Article 11 Ports

For the purpose of delimiting the territorial sea, the outermost permanent harbor works which form an integral part of the harbor system are regarded as forming part of the coast. Off-shore installations and artificial islands shall not be considered as permanent harbor works.

#### Article 12 Roadsteads

Roadsteads which are normally used for the loading, unloading, and anchoring of ships, and which would otherwise be situated wholly or partly outside the outer limit of the territorial sea, are included in the territorial sea.

#### Article 13 Low-tide elevations

1. A low-tide elevation is a naturally formed area of land which is surrounded by and above water at low tide but submerged at high tide. When low-tide elevation is situated wholly or partly at a distance not exceeding the breadth of the territorial sea from the mainland or an island, the low-water line on that elevation may be used as the baseline for measuring breadth of the territorial sea.

2. Where a low-tide elevation is wholly situated at a distance exceeding the breadth of the territorial sea from the mainland or an island, it has no territorial sea of its own.

#### Article 14

##### Combination of methods for determining baselines

The coastal State may determine baselines in turn by any of the methods provided for in the foregoing articles to suit different conditions.

#### Article 15

##### Delimitation of the territorial sea between States with opposite or adjacent coasts

Where the coasts of two States are opposite or adjacent to each other, neither of the two States is entitled, failing agreement between them to the contrary, to extend its territorial sea beyond the median line every point of which is equidistant from the nearest points on the baselines from which the breadth of the territorial seas of each of the two States is measured. The above provision does not apply, however, where it is necessary by reason of historic title or other special circumstances to delimit the territorial sea of the two States in a way which is at variance therewith.

#### Article 16

##### Charts and lists of geographical co-ordinates

1. The baselines for measuring the breadth of the territorial sea determined in accordance with articles 7, 9 and 10, or the limits derived therefrom, and the lines of delimitation drawn in accordance with articles 12 and 15 shall be shown on charts of a scale or scales adequate for ascertaining their position. Alternatively, a list of geographical co-ordinates of points, specifying the geodetic datum, may be substituted.

2. The coastal State shall give due publicity to such charts or lists of geographical co-ordinates and shall deposit a copy of each such chart or list with the Secretary-General of the United Nations.

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### **SECTION 4. CONTIGUOUS ZONE**

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#### Article 33

##### Contiguous zone

1. In a zone contiguous to its territorial sea, described as the contiguous zone, the coastal State may exercise the control necessary to:

- (a) prevent infringement of its customs, fiscal, immigration or sanitary laws and regulations within its territory or territorial sea;
- (b) punish infringement of the above laws and regulations committed within its territory or territorial sea.

2. The contiguous zone may not extend beyond 24 nautical miles from the baselines from which the breadth of the territorial sea is measured.

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## **PART V**

### **EXCLUSIVE ECONOMIC ZONE**

#### Article 55

##### Specific legal regime of the exclusive economic zone

The exclusive economic zone is an area beyond and adjacent to the territorial sea, subject to the specific legal regime established in this part, under which the rights and jurisdictions of the coastal State and the rights and freedoms of other States are governed by the relevant provisions of this Convention.

#### Article 56

##### Rights, jurisdiction and duties of the coastal State in the exclusive economic zone

1. In the exclusive economic zone, the coastal State has:
  - (a) sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources, whether living or non-living, of the sea-bed and subsoil and the superjacent waters, and with regard to other activities for the economic exploitation and exploration of the zone, such as the production of energy from the water, currents and winds;
  - (b) jurisdiction as provided for in the relevant provisions of this Convention with regard to:
    - (i) the establishment and use of artificial islands, installations, and structures;
    - (ii) marine scientific research;
    - (iii) the protection and preservation of the marine environment;
  - (c) other rights and duties provided for in this Convention.
2. In exercising its rights and performing its duties under this Convention in the exclusive economic zone, the coastal State shall have due regard to the rights and duties of other States and shall act in a manner compatible with the provisions of this Convention.
3. The rights set out in this article with respect to the sea-bed and subsoil shall be exercised in accordance with part VI.

#### Article 57

##### Rights and duties of other States in the exclusive economic zone

The exclusive economic zone shall not extend beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured.

Article 58  
Rights and duties of other States  
in the exclusive economic zone

1. In the exclusive economic zone, all States, whether coastal or land-locked, enjoy, subject to the relevant provisions of this Convention, the freedoms referred to in article 87 of navigation and overflight and of the laying of submarine cables and pipelines, and other internationally lawful uses of the sea related to these freedoms, such as those associated with the operation of ships, aircraft and submarine cables and pipelines, and compatible with the other provisions of this Convention.
2. Articles 88 to 115 and other pertinent rules of international law apply to the exclusive economic zone in so far as they are not incompatible with this Part.
3. In exercising their rights and performing their duties under this Convention in the exclusive economic zone, States shall have due regard to the rights and duties of the coastal State and shall comply with the laws and regulations adopted by the coastal State in accordance with the provisions of this Convention and other rules of international law in so far as they are not incompatible with this Part.

Article 59  
Basis for the resolution of conflicts regarding the  
attribution of rights and jurisdiction in the exclusive  
economic zone

In cases where this Convention does not attribute rights or jurisdiction to the coastal State or to other States within the exclusive economic zone, and a conflict arises between the interests of the coastal State and any other State or States, the conflict should be resolved on the basis of equity and in the light of all the relevant circumstances, taking into account the respective importance of the interests involved to the parties as well as to the international community as a whole.

Article 60  
Artificial islands, installations, and structures in the  
exclusive economic zone

1. In the exclusive economic zone, the coastal State shall have the exclusive right to construct and to authorize and regulate the construction, operation and use of:
  - (a) artificial islands;
  - (b) installations and structures for the purposes provided for in article 56 and other economic purposes;
  - (c) installations and structures which may interfere with the exercise of the rights of the coastal State in the zone.
2. The coastal State shall have exclusive jurisdiction over such artificial islands, installations and structures, including jurisdiction with regard to customs, fiscal, health, safety and immigration laws and regulations.

3. Due notice must be given of the construction of such artificial islands, installations or structures, and permanent means for giving warning of their presence must be maintained. Any installations or structures which are abandoned or disused shall be removed to ensure safety of navigation, taking into account any generally accepted international standards established in this regard by the competent international organization. Such removal shall also have due regard to fishing, the protection of the marine environment and the rights and duties of other States. Appropriate publicity shall be given to the depth, position and dimensions of any installations or structures not entirely removed.

4. The coastal State may, where necessary, establish reasonable safety zones around such artificial islands, installations and structures in which it may take appropriate measures to ensure the safety both of navigation and of the artificial islands, installations and structures.

5. The breadth of the safety zones shall be determined by the coastal State, taking into account applicable international standards. Such zones shall be designed to ensure that they are reasonably related to the nature and function of the artificial islands, installations or structures, and shall not exceed a distance of 500 meters around them, measured from each point of their outer edge, except as authorized by generally accepted international standards or as recommended by the competent international organization. Due notice shall be given of the extent of safety zones.

6. All ships must respect these safety zones and shall comply with generally accepted international standards regarding navigation in the vicinity of artificial islands, installations, structures and safety zones.

7. Artificial islands, installations and structures and the safety zones around them may not be established where interference may be caused to the use of recognized sea lanes essential to international navigation.

8. Artificial islands, installations and structures do not possess the status of islands. They have no territorial sea of their own, and their presence does not affect the delimitation of the territorial sea, the exclusive economic zone or the continental shelf.

#### Article 61 Conservation of the living resources

1. The coastal State shall determine the allowable catch of the living resources in its exclusive economic zone.

2. The coastal State, taking into account the best scientific evidence available to it, shall ensure through proper conservation and management measures that the maintenance of the living resources in the exclusive economic zone is not endangered by over-exploitation. As appropriate, the coastal State and competent international organizations, whether subregional, regional or global, shall cooperate to this end.

3. Such measures shall also be designed to maintain or restore populations of



harvested species at levels which can produce the maximum sustainable yield, as qualified by relevant environmental and economic factors, including the economic needs of coastal fishing communities and the special requirements of developing States, and taking into account fishing patterns, the interdependence of stocks and any generally recommended international minimum standards, whether subregional, regional or global.

4. In taking such measures the coastal State shall take into consideration the effects on species associated with or dependent upon harvested species with a view to maintaining or restoring populations of such associated or dependent species above levels at which their reproduction may become seriously threatened.

5. Available scientific information, catch and fishing effort statistics, and other data relevant to the conservation of fish stocks shall be contributed and exchanged on a regular basis through competent international organizations, whether subregional, regional or global, where appropriate and with participation by all States concerned, including States whose nationals are allowed to fish in the exclusive economic zone.

#### Article 62 Utilization of the living resources

1. The coastal State shall promote the objective of optimum utilization of the living resources in the exclusive economic zone without prejudice to article 61.

2. The coastal State shall determine its capacity to harvest the living resources of the exclusive economic zone. Where the coastal State does not have the capacity to harvest the entire allowable catch, it shall, through agreements or other arrangements and pursuant to the terms, conditions, laws and regulations referred to in paragraph 4, give other States access to the surplus of the allowable catch, having particular regard to the provisions of articles 69 and 70, especially in relation to the developing States mentioned therein.

3. In giving access to other States to its exclusive economic zone under this article, the coastal State shall take into account all relevant factors, including, inter alia, the significance of the living resources of the area to the economy of the coastal State concerned and its other national interests, the provisions of articles 69 and 70, the requirements of developing States in the subregion or region in harvesting part of the surplus and the need to minimize economic dislocation in States whose nationals have habitually fished in the zone or which have made substantial efforts in research and identification of stocks.

4. Nationals of other States fishing in the exclusive economic zone shall comply with the conservation measures and with the other terms and conditions established in the laws and regulations of the coastal State. These laws and regulations shall be consistent with this Convention and may relate, inter alia, to the following:

- (a) licensing of fishermen, fishing vessels and equipment, including payment of fees and other forms of remuneration, which, in the case of developing coastal States, may consist of adequate compensation in the field of financing, equipment and technology relating to the fishing industry;
- (b) determining the species which may be caught, and fixing quotas of catch, whether in relation to particular stocks or groups of stocks or catch per vessel over a period of time or to the catch by nationals of any State during a specified period;
- (c) regulating seasons and areas of fishing, the types, sizes and amount of gear, and the types, sizes and number of fishing vessels that may be used;
- (d) fixing the age and size of fish and other species that may be caught;
- (e) specifying information required of fishing vessels, including catch and effort statistics and vessel position reports;
- (f) requiring, under the authorization and control of the coastal State, the conduct of specified fisheries research programs and regulating the conduct of such research, including the sampling of catches, disposition of samples and reporting of associated scientific data;
- (g) the placing of observers of trainees on board such vessels by the coastal State;
- (h) the landing of all or any part of the catch by such vessels in the ports of the coastal State;
- (i) terms and conditions relating to joint ventures or other co-operative arrangements;
- (j) requirements for the training of personnel and the transfer of fisheries technology, including enhancement of the coastal State's capability of undertaking fisheries research;
- (k) enforcement procedures.

5. Coastal States shall give due notice of conservation and management laws and regulations.

#### Article 63

Stocks occurring within the exclusive economic zones of two or more coastal States or both within the exclusive economic zone and in an area beyond and adjacent to it

1. Where the same stock or stocks of associated species occur within the exclusive economic zones of two or more coastal States, these States shall seek, either directly or through appropriate subregional or regional organizations, to

agree upon the measure necessary to co-ordinate and ensure the conservation and development of such stocks without prejudice to the other provisions of this Part.

2. Where the same stock or stocks of associated species occur both within the exclusive economic zone and in an area beyond and adjacent to the zone, the coastal State and the States fishing for such stocks in the adjacent area shall seek, either directly or through appropriate subregional or regional organizations, to agree upon the measures necessary for the conservation of these stocks in the adjacent area.

#### Article 64

##### Highly migratory species

1. The coastal State and other States whose nationals fish in the region for the highly migratory species listed in Annex I shall co-operate directly or through appropriate international organizations with a view to ensuring conservation and promoting the objective of optimum utilization of such species throughout the region, both within and beyond the exclusive economic zone. In regions for which no appropriate international organization exists, the coastal State and other States whose nationals harvest these species in the region shall co-operate to establish such an organization and participate in its work.

2. The provisions of paragraph 1 apply in addition to the other provisions of this Part.

#### Article 65

##### Marine mammals

Nothing in this Part restricts the right of a coastal State or the competence of an international organization, as appropriate, to prohibit, limit or regulate the exploitation of marine mammals more strictly than provided for in this Part. States shall co-operate with a view to the conservation of marine mammals and in the case of cetaceans shall in particular work through the appropriate international organizations for their conservation, management and study.

#### Article 66

##### Anadromous stocks

1. States in whose rivers anadromous stocks originate shall have the primary interest in and responsibility for such stocks.

2. The State of origin of anadromous stocks shall ensure their conservation by the establishment of appropriate regulatory measures for fishing in all waters landwards of the outer limits of its exclusive economic zone and for fishing provided for in paragraph 3(b). The State of origin may, after consultations with the other States referred to in paragraphs 3 and 4 fishing these stocks, establish total allowable catches for stocks originating in its rivers.

3. (a) Fisheries for anadromous stocks shall be conducted only in waters landwards of the outer limits of exclusive economic zones, except in cases where

this provision would result in economic dislocation for a State other than the State of origin. With respect to such fishing beyond the outer limits of the exclusive economic zone, States concerned shall maintain consultations with a view to achieving agreement on terms and conditions of such fishing giving due regard to the conservation requirements and the needs of the State of origin in respect of these stocks.

(b) The State of origin shall co-operate in minimizing economic dislocation in such other States fishing these stocks, taking into account the normal catch and the mode of operations of such States, and all the areas in which such fishing has occurred.

(c) States referred to in subparagraph (b), participating by agreement with the State of origin in measures to renew anadromous stocks, particularly by expenditures for that purpose, shall be given special consideration by the State of origin in the harvesting of stocks originating in its rivers.

(d) Enforcement of regulations regarding anadromous stocks beyond the exclusive economic zone shall be by agreement between the State of origin and the other States concerned.

4. In cases where anadromous stocks migrate into or through the waters landward of the outer limits of the exclusive economic zone of a State other than the State of origin, such State shall co-operate with the State of origin with regard to the conservation and management of such stocks.

5. The State of origin of anadromous stocks and other States fishing these stocks shall make arrangements for the implementation of the provisions of this article, where appropriate, through regional organizations.

#### Article 67 Catadromous species

1. A coastal State in whose waters catadromous species spend the greater part of their life cycle shall have responsibility for the management of these species and shall ensure the ingress and egress of migrating fish.

2. Harvesting of catadromous species shall be conducted only in waters landward of the outer limits of exclusive economic zones. When conducted in exclusive economic zones, harvesting shall be subject to this article and the other provisions of this Convention concerning fishing in these zones.

3. In cases where catadromous fish migrate through the exclusive economic zone of another State, whether as juvenile or maturing fish, the management, including harvesting, of such fish shall be regulated by agreement between the State mentioned in paragraph 1 and the other State concerned. Such agreement shall ensure the rational management of the species and take into account the responsibilities of the State mentioned in paragraph 1 for the maintenance of these species.

Article 68  
Sedentary species

This Part does not apply to sedentary species as defined in article 77, paragraph 4.

Article 69  
Right of land-locked states

1. Land-locked States shall have the right to participate, on an equitable basis, in the exploitation of an appropriate part of the surplus of the living resources of the exclusive economic zones of coastal States of the same subregion or region, taking into account the relevant economic and geographical circumstances of all the States concerned and in conformity with the provisions of this article and of articles 61 and 62.

2. The terms and modalities of such participation shall be established by the States concerned through bilateral, subregional or regional agreements taking into account, inter alia:

- (a) the need to avoid effects detrimental to fishing communities or fishing industries of the coastal State;
- (b) The extent to which the land-locked State, in accordance with the provisions of this article, is participating or is entitled to participate under existing bilateral, subregional or regional agreements in the exploitation of living resources of the exclusive economic zones of other coastal States;
- (c) the extent to which other land-locked States and States with special geographical characteristics are participating in the exploitation of the living resources of the exclusive economic zone of the coastal State and the consequent need to avoid a particular burden for any single coastal State or a part of it;
- (d) the nutritional needs of the populations of the respective States.

3. When the harvesting capacity of a coastal State approaches a point which would enable it to harvest the entire allowable catch of the living resources in its exclusive economic zone, the coastal State and other States concerned shall co-operate in the establishment of equitable arrangements on a bilateral, subregional or regional basis to allow for participation of developing land-locked States of the same subregion or region in the exploitation of the living resources of the exclusive economic zones of coastal States of the subregion or region, as may be appropriate in the circumstances and on terms satisfactory to all parties. In the implementation of this provision the factors mentioned in paragraph 2 shall also be taken into account.

4. Developed land-locked States shall, under the provisions of this article, be entitled to participate in the exploitation of living resources only in the exclusive economic zones of developed coastal States of the same subregion or region having regard to the extent to which the coastal State, in giving access to other States to the living resources of its exclusive economic zone, has taken into account the need to minimize detrimental effects on fishing communities and economic dislocation in States whose nationals have habitually fished in the zone.

5. The above provisions are without prejudice to arrangements agreed upon in subregions or regions where the coastal States may grant to land-locked States of the same subregion or region equal or preferential rights for the exploitation of the living resources in the exclusive economic zones.

#### Article 70

##### Right of States with special geographical characteristics

1. States with special geographical characteristics shall have the right to participate, on an equitable basis, in the exploitation of an appropriate part of the surplus of the living resources of the exclusive economic zones of coastal States of the same subregion or region, taking into account the relevant economic and geographical circumstances of all the States concerned and in conformity with the provisions of this article and of articles 61 and 62.

2. For the purposes of this Convention, "States with special geographical characteristics" means coastal States, including States bordering enclosed or semi-enclosed seas, whose geographical situation makes them dependent upon the exploitation of the living resources of the exclusive economic zones of other States in the subregion or region for adequate suppliers of fish for the nutritional purposes of their populations or parts thereof, and coastal States which can claim no exclusive economic zones of their own.

3. The terms and modalities of such participation shall be established by the States concerned through bilateral, subregional or regional agreements taking into account, inter alia:

- (a) the need to avoid effects detrimental to fishing communities or fishing industries of the coastal State;
- (b) the extent to which the State with special geographical characteristics, in accordance with the provisions of this article, is participating or is entitled to participate under existing bilateral, subregional or regional agreements in the exploitation of living resources of the exclusive economic zones of other coastal States;
- (c) the extent to which other States with special geographical characteristics and land-locked States are participating in the exploitation of the living resources of the exclusive economic zone of the coastal State and the consequent need to avoid a particular burden for any single coastal State or a part of it;
- (d) the nutritional needs of the populations of the respective States.

4. When the harvesting capacity of a coastal State approaches a point which would enable it to harvest the entire allowable catch of the living resources in its exclusive economic zone, the coastal State and other States concerned shall co-operate in the establishment of equitable arrangements on a bilateral, subregional or regional basis to allow for participation of developing States with special geographical characteristics of the same subregion or region in the exploitation of the living resources of the exclusive economic zones of coastal States of the subregion or region, as may be appropriate in the circumstances

and on terms satisfactory to all parties. In the implementation of this provision the factors mentioned in paragraph 3 shall also be taken into account.

5. Developed States with special geographical characteristics shall, under the provisions of this article, be entitled to participate in the exploitation of living resources only in the exclusive economic zones of developed coastal States of the same subregion or region having regard to the extent to which the coastal State, in giving access to other States to the living resources of its exclusive economic zone, has taken into account the need to minimize detrimental effects on fishing communities and economic dislocation in States whose nationals have habitually fished in the zone.

6. The above provisions are without prejudice to arrangements agreed upon in subregions or regions where the coastal States may grant to States with special geographical characteristics of the same subregion or region equal or preferential rights for the exploitation of the living resources in the exclusive economic zones.

#### Article 71

##### Non-applicability of articles 69 and 70

The provisions of articles 69 and 70 do not apply in the case of a coastal State whose economy is overwhelmingly dependent on the exploitation of the living resources of its exclusive economic zone.

#### Article 72

##### Restrictions on transfer of rights

1. Rights provided under articles 69 and 70 to exploit living resources shall not be directly or indirectly transferred to third States or their nationals by lease or license, by establishing joint ventures or in any other manner which has the effect of such transfer unless otherwise agreed by the States concerned.

2. The foregoing provision does not preclude the States concerned from obtaining technical or financial assistance from third States or international organizations in order to facilitate the exercise of the rights pursuant to articles 69 and 70, provided that it does not have the effect referred to in paragraph 1.

#### Article 73

##### Enforcement of laws and regulations of the coastal State

1. The coastal State may, in the exercise of its sovereign rights to explore, exploit, conserve and manage the living resources in the exclusive economic zone, take such measures, including boarding, inspection, arrest and judicial proceedings, as may be necessary to ensure compliance with the laws and regulations adopted by it in conformity with this Convention.

2. Arrested vessels and their crews shall be promptly released upon the posting of reasonable bond or other security.

3. Coastal State penalties for violations of fisheries laws and regulations in the exclusive economic zone may not include imprisonment, in the absence of agreements to the contrary by the States concerned, or any other form of corporal punishment.

4. In cases of arrest or detention of foreign vessels the coastal State shall promptly notify the flag State, through appropriate channels, of the action taken and of any penalties subsequently imposed.

#### Article 74

##### Delimitation of the exclusive economic zone between States with opposite or adjacent coasts

1. The delimitation of the exclusive economic zone between States with opposite or adjacent coasts shall be effected by agreement on the basis of international law, as referred to in Article 38 of the Statute of the International Court of Justice, in order to achieve an equitable solution.

2. If no agreement can be reached within a reasonable period of time, the States concerned shall resort to the procedures provided for in Part XV.

3. Pending agreement as provided for in paragraph 1, the States concerned, in a spirit of understanding and co-operation, shall make every effort to enter into provisional arrangements of a practical nature and, during this transitional period, not to jeopardize or hamper the reaching of the final agreement. Such arrangements shall be without prejudice to the final delimitation.

4. Where there is an agreement in force between the States concerned, questions relating to the delimitation of the exclusive economic zone shall be determined in accordance with the provisions of that agreement.

#### Article 75

##### Charts and lists of geographical co-ordinates

1. Subject to this Part, the outer limit lines of the exclusive economic zone and the lines of delimitation drawn in accordance with article 74 shall be shown on charts of a scale or scales adequate for ascertaining their position. Where appropriate, lists of geographical co-ordinates of points, specifying the geodetic datum, may be substituted for such outer limit lines or lines of delimitation.

2. The coastal State shall give due publicity to such charts or lists of geographical co-ordinates and shall deposit a copy of each such chart or list with the Secretary-General of the United Nations.

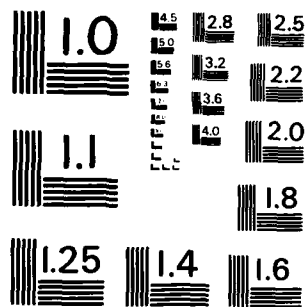
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## **APPENDIX B**

### **SIGNIFICANT DOMESTIC AND INTERNATIONAL EVENTS AND LEGISLATION**

#### **1872-1876: Voyage of the Research Vessel "Challenger"**

This scientific marine research expedition gave rise to the term "oceanography" and did more to advance interest in and knowledge of the marine environment than any other single event before or since.

#### **1934: Fish and Wildlife Coordination Act (16 USC 661-666c)**

This authorized the Secretary of the Interior to cooperate with Federal, State, and public or private agencies in the conservation and development of fish and wildlife resources affected by water resource development programs.

#### **1943-1945: National Marine Resources Policy Study**

The Department of the Interior and the State Department jointly conducted this study, which attempted to develop proposals for a national marine policy. By December, 1944, Interior and State had reached an agreement, which was subsequently approved by President Roosevelt on March 31, 1945. The decisions reached during this policy formulation process were, at the least, major determinants of the basic structure of the United States ocean programs and policies up to that time, and thus are of major importance in understanding the direction and character of government activity in the ocean.

The agreement between the Interior and State Departments essentially segmented the ocean and its resources into two components: submerged lands and ocean waters. Oil and gas and other resources on, in, or under the submerged lands were claimed as being in the sovereign control out to a depth of 600 feet and would be managed under the submerged lands regime. Fisheries would be managed separately from the submerged lands program and would not be controlled within the context of an ocean water management program. This aspect of the agreement did not deal explicitly with management of the component of ocean space.

#### **1945: The Truman Proclamations on the "Policy of the United States with respect to the natural resources of the subsoil and sea bed of the continental shelf"**

The Proclamations claimed "the natural resources of the subsoil and seabed of the continental shelf beneath the high seas but contiguous to the coasts of the United States as appertaining to the United States, subject to its jurisdiction and control." This constituted a unilateral claim to the resources of the continental

shelf and the right to establish a fishery conservation zone in waters above those submerged lands.

For administrative purposes, and "pending the enactment of legislation," the natural resources of the subsoil and seabed of the continental shelf were placed under the jurisdiction and control of the Secretary of the Interior.

Many coastal states perceived the Truman Proclamations as evidence of a major effort on the part of the Truman Administration to wrest control of the submerged lands of the territorial sea from the states.

#### **1947: United States v. California**

The Supreme Court ruled that the states did not own submerged lands of the territorial sea and that the Federal government had full authority over these resources.

Although the Supreme Court determined that California did not own these submerged lands and that the Federal Government had full authority to control them, it did not say that the Federal Government owned these lands or resources.

#### **1947: Establishment of the International Law Commission**

The activities of the ILC laid the groundwork for the first United Nations Conferences on the Law of the Sea (UNCLOS I and II). Its deliberations represented the first systematic attempt to deal with law of the sea matters under United Nations auspices. The ILC was established to fulfill the mandate of Article 13 of the UN charter: "To initiate studies and make recommendations for the purpose of...encouraging the progressive development of international law and its codification." Articles drafted by the ILC served as the basic document for the work of the 1958 Geneva Conference on Law of the Sea.

#### **1950: United States v. Texas, United States v. Louisiana**

In both these cases, the Supreme Court again held that because of Federal authority over foreign affairs, interstate commerce, the waging of war, treaties, and defense of the shore, it was necessary that the Federal Government have physical control of the submerged lands of the territorial sea, precluding State ownership.

The issue of State versus Federal control of offshore lands and resources was vigorously debated up until passage of the Submerged Lands Act of 1953 and the Outer Continental Shelf Lands Act (1953).

### **1953: Submerged Lands Act (43 USC 1301 et seq.)**

The Submerged Lands Act is quitclaim legislation to the extent that any Federal claim to ownership or to the authority to manage or lease resources or submerged lands is removed. However, the Federal government retained authority over commerce, navigation, international agreements, and national defense. In short, the Submerged Lands Act did two things:

- (1) split authority, or sustained an existing division of authority, over the territorial sea between Federal and State governments; and
- (2) recognized resources and submerged lands as a management unit, without explicitly assigning authority over territorial waters. It focused instead upon water-related activities such as commerce, water power, navigation, and national defense.

### **1953: Outer Continental Shelf Lands Act (43 USC 1331 et seq.)**

Through the OCSLA, which reaffirmed the Truman Proclamations, the U.S. claimed full control and authority over the resources and lands of the Outer Continental Shelf. Although the U.S. had previously established ocean defense zones during time of war and claimed revenue collection authority as far as 60 miles out to sea, this new claim over submerged lands was the equivalent of a unilateral extension of national territory into a portion of the ocean space that had previously been considered as international "high seas." The Federal government also became involved in a major natural resources management effort, through its assumption of authority over oil and gas resources of continental shelf lands. This Act authorized the Federal government to grant mineral leases and rights-of-way on the OCS.

### **1958: Geneva Conventions: 1) On the High Seas; 2) On the Territorial Sea and Contiguous Zone; 3) On the Continental Shelf; and 4) On Fishing and Conservation of the Living Resources of the High Seas**

These Conventions established international agreement as follows: 1) Defines the "high seas" as all parts of the sea not included in the territorial sea or internal waters of a State. Asserts the freedom of all nations for navigation, fishing, laying of cables and pipelines, and flight over the high seas. Also requires States to draw up regulations and measures to prevent pollution of these seas. 2) Defines the territorial sea as a belt of coastal water not wider than 12 miles as measured from a baseline located at the shoreline's low-water mark. Asserts the right of innocent passage through territorial waters, although exercise of appropriate controls may be exerted by a coastal State if passage threatens the peace, security, or public health. 3) Asserts coastal State control over the seabed and subsoil of the continental shelf "to a depth of 200 meters or, beyond that limit, to where the depth of the superadjacent waters admits the exploitation of the natural resources of the said areas.." State control also includes living resources that are sedentary, immobile and living under the seabed, and those species unable to move except in constant contact with the sea floor. 4) Asserts the coastal State's right to undertake research and regulation for purposes of conservation of living resources of the high seas in areas adjacent to the coastal States' territorial sea. Establishes international cooperation with such coastal State efforts.

**1964: Commercial Fisheries Research & Development Act**

This authorized the Secretary of the Interior to cooperate with the States, Puerto Rico, American Samoa, the Virgin Islands, Guam, and the Trust Territory of the Pacific Islands in carrying out projects designed for research and development of the commercial fisheries resources of the nation.

**1965: Land and Water Conservation Fund Act (P.L. 88-578)**

This created a special Land and Water Conservation Fund derived from several types of revenue, and authorized appropriations from the fund for: (1) matching grants to States for outdoor recreation projects; and (2) various Federal purposes.

**1966: National Sea Grant College and Program Act (P.L. 89-688)**

The Act provided for the establishment and operation of sea grant colleges and programs by initiating and supporting programs of education and research in various fields related to the development of marine resources.

**1966: Marine Resources Engineering and Development Act (P.L. 89-454)**

The purpose of the Act was to provide for a comprehensive, long-range national program in marine science by coordinating the ocean-related activities of 29 national bureaus in 11 Federal agencies and of 35 subcommittees of the Congress. The Act established two bodies to promote the coordination of U.S. ocean activities: 1) a National Council on Marine Resources at the cabinet level; and 2) a Commission on Marine Science, Engineering and Resources (the Stratton Commission), which was charged with assessing the nation's stake in the marine environment, reviewing all current and contemplated marine activities, formulating a comprehensive long-term plan for marine affairs, and recommending a plan of governmental organization to support a national marine program.

**1969: Release of the Stratton Commission Report "Our Nation and the Sea"**

The Commission's report provided and continues to provide a sense of direction and urgency to the government's role in safeguarding and allocating public marine resources. The report reviewed the nation's interests in the ocean and recommended the creation of a single civilian ocean agency to organize the nation's scientific, technological and management needs in the sea. It recommended the creation of a National Oceanic and Atmospheric Administration that would include the Coast Guard, the Environmental Sciences Services Administration, the Bureau of Commercial Fisheries, Sea Grant, the U.S. Lake Survey, and the National Oceanographic Center.

The report of the Stratton Commission recommended that "the United States take the initiative to secure international agreement on a redefinition of

the 'continental shelf'... The seaward limit of each coastal nation's 'continental shelf' should be fixed at the 200-meter isobath, or 50 nautical miles from the baseline...whichever alternative gives it the greater area." The Commission pointed out that this "continental shelf" would be a "narrow shelf" with precise outer limits, thus serving the interests of the United States.

The Commission also recommended vesting limited rights to regulate seabed mining in an international authority.

The Stratton Report has served as a principal guide for many subsequent Congressional and Presidential ocean-related actions.

#### **1969: Santa Barbara Oil Spill**

This oil spill dramatically brought to the public's attention the vulnerability of the nation's coastal waters to man's actions. Occurring shortly after the release of the Stratton Commission Report and shortly before release of the "National Estuarine Pollution Study," the tragedy underscored the urgent need for governmental action.

#### **1969: National Environmental Policy Act, as amended (42 USC 4321 et seq.)**

The Act initiated a series of legislative actions designed to respond to perceived concerns for the quality of the nation's environment. It states that environmental impact statements required under Section 102 be prepared and reviewed in consultation with Federal agencies having "jurisdiction by law or special expertise with respect to any environmental impact involved." All major Federal actions, whether affecting land or water resources, are covered.

#### **1970: Establishment of NOAA by President Nixon's Reorganization Plan No. 4 and Executive Order 11564**

The National Oceanic and Atmospheric Administration (NOAA) was established in the Department of Commerce. Its primary mission concerned research and development on marine-related matters, but it has since been expanded to include certain planning and regulatory functions. Authorities originally transferred to NOAA--including Sea Grant (from NSF), the Bureau of Commercial Fisheries (from DOI), Environmental Science Services Administration, and others--were less than those recommended by the Stratton Commission. One notable omission was the U.S. Coast Guard.

#### **1970: Ports and Waterways Safety Act, as amended (33 USC 1221-1232)**

This Act provided for "protection of navigation and vessel safety and protection of the marine environment." Secretary of the Department under which the Coast Guard is operating supervises vessel and port operations, and ensures that vessel construction, equipment, manning, and operational procedures are in compliance with established standards and procedures. The act

requires consultation with other Departments having regulatory responsibilities for uses of the high seas, including the Departments of Commerce and Interior, and contains provisions for establishment of international agreements and standards for compatible vessel standards and traffic services within areas of mutual concern.

**1971: National Advisory Committee on Ocean and Atmosphere Act (33 USC 857 et seq.)**

This Act established the National Advisory Committee on Oceans and Atmosphere (NACOA) to undertake a continuing review of national ocean policy, coastal zone management, and the status of marine and atmospheric science programs. NACOA is also charged with submitting annual reports and specially requested reports to the President and Congress. Its members must be other than full-time Federal employees or officers, so as to provide an independent viewpoint.

**1972: Ports and Waterways Safety Act (33 USC 1221 et seq.)**

The Act provides regulatory authority over increasing safety hazards for maritime transportation and pollution resulting from casualties of vessels carrying oil or other hazardous bulk materials.

**1972: Federal Water Pollution Control Act (33 USC 1361 et seq.)**

This Act includes provisions to regulate and control discharges of oil and hazardous substances into navigable waters. It also provides the authority for water quality management planning out to the three-mile territorial sea under section 208. (This authority has never been used, however.)

**1972: Marine Mammal Protection Act (16 USC 1361 et seq.)**

The Act establishes a moratorium on the taking of marine mammals; establishes a permitting system for allowing exceptions to the moratorium; delegates regulatory and research authorities for marine mammals to the Departments of Commerce and Interior; and establishes the Marine Mammal Commission.

**1972: Marine Protection Research and Sanctuaries Act (33 USC 1401 et seq.)**

Title I provides for the regulation of ocean dumping; Title II provides for research into the causes and prevention of marine pollution; and Title III provides for the designation of marine sanctuaries.



**1972: Coastal Zone Management Act (16 USC 1451 et seq.)**

This authorizes the Secretary of Commerce to award annual grants to coastal States to assist in the development and implementation of a management plan for protecting and developing land and water resources of the coastal zone. It also provides for the designation of estuarine sanctuaries for research purposes.

**1973: Endangered Species Act as amended (16 USC 1531-43)**

This Act provides for the conservation of threatened and endangered species of fish, wildlife, and plants by Federal action and by encouraging the establishment of State programs. It also provides for naming endangered and threatened species, and the habitats in which they can be found. This conservation effort extends to marine as well as terrestrial species.

**1973-1974: Arab Oil Embargo**

The embargo demonstrated our dependence on foreign oil supplies and underscored the importance of OCS oil and gas resources. It also served to assign a tremendously important role to these marine resources in terms of national security; provided a major thrust for marine resource exploitation; and highlighted the importance and extent of oil transport by tankers.

**1974: Acceleration of Federal OCS Leasing**

President Nixon further accelerated the OCS leasing rate so that 10 million acres would be leased in 1975 alone. This expansion clearly demonstrated the importance of these resources to the nation. It initiated a high level of concerns by coastal States and citizens as to the adequacy of OCS regulations and the effects of offshore development on onshore and nearshore environments.

**1974: Establishment of the Senate National Ocean Policy Study (NOPS) (Senate Resolution 222)**

NOPS was created to provide an element of coordination among ocean-related activities and issues whose oversight and jurisdiction is split among eight Senate committees. Its broad mandate authorizes NOPS to investigate and report on: 1) ocean technology and research; 2) the adequacy and organization of governmental ocean programs; 3) the use and conservation of living ocean resources; 4) the development and use of the ocean's mineral resources; 5) coastal zone management; 6) national and international ocean jurisdiction; and 7) global ocean research, exploitation, and cooperation.

**1974: Release of the Third Annual Report by the National Advisory Committee on Oceans and Atmosphere**

NACOA's Third Report included a recommendation that the major functions involved with ocean resources, regulation, and research be

amalgamated into a newly structured administration within a single Agency. The functions recommended for inclusion were: NOAA; the Geological Survey; the OCS mineral leasing program of Interior's Bureau of Land Management; the marine-related functions of DOI's Bureau of Sports Fisheries and Wildlife; marine and coastal activities of the ACOE; and the U.S. Coast Guard.

**1975: Deepwater Ports Act (33 USC 1501 et seq.)**

The DPA provided for the regulation, ownership, construction and operation of deepwater ports beyond the territorial sea. It vested primary regulatory authority with the Department of Transportation and review functions with NOAA.

**1975: U.S. vs. Maine**

This decision reaffirms earlier court decisions which denied State jurisdiction and asserted Federal control over the seabed and subsoil beyond the three-mile (three marine leagues in certain States) belt adjacent to a coastal State's shoreline. It established the three-mile limit for the eastern seaboard.

**1975: Creation of the House Ad Hoc Select Committee on the Outer Continental Shelf (House Resolution 412)**

The House Ad Hoc Committee on OCS is established to report on the OCS Lands Act Amendments of 1975 and to promote coordination among the various House Committees with jurisdiction over the subject matter. This Committee--whose expiration date extends until completion of the legislative process for the OCS Lands Act Amendments--represents a House approach to coordinating its committee authorities in the oceans. This approach is not, however, as comprehensive as that established by the Senate NOPS, since it has an expiration date and is limited in scope.

**1975: Release of the General Accounting Office Report "The Need for a National Ocean Program and Plan"**

Prepared for the Senate NOPS, the study reviews Federal ocean activities and recommends the establishment of a national ocean program and plan that: 1) defines specific marine-related needs and objectives; 2) establishes priorities among these objectives; 3) evaluates Federal ocean program activities in regard to their attainment of national ocean objectives and needs; 4) periodically reviews ocean needs and objectives; and 5) provides adequate funding to carry out plan activities.

**1976: Fishery Conservation and Management Act (FCMA) (16 USC 1801 et seq.)**

Passage of the FCMA provides a national plan for managing marine fisheries. The Act features provisions calling for a 200-mile fishery

conservation zone; eight Regional Fishery Management Councils; and authority to develop and implement regulations necessary for the conservation and management of fishery resource.

**1976: Establishment of the House Ocean Policy Advisory Committee (HOPAC)**

Establishment of the HOPAC provides an informal ad hoc advisory group for input on ocean policy issues. Similar to NOPS in its broad spectrum of ocean interest, HOPAC differs from NOPS in that it is an informal group and includes representatives from industry and academia as well as government. Although the group is informal in nature, the possibility exists that it may be called upon to conduct studies on certain topical ocean issues.

**1976: The National Sciences and Technology Policy, Organization, and Priorities Act (42 USC 6601 et seq.)**

This Act establishes within the Executive branch the Office of Science and Technology Policy (OSTP), which includes as part of its responsibility formulation of policies related to ocean science and technology. The Act also establishes the Federal Coordinating Council for Science Engineering and Technology (FCCSET). FCCSET is a cabinet-level coordinating body which, through its Committee on Oceans and Atmosphere, has taken over the marine research coordination functions of the Interagency Committee for Marine Science and Engineering (ICMSE).

**1976: Sea Grant Improvement Act**

This amended the 1966 law and included provisions for the promotion of research, education, training, and advisory service activities in fields related to ocean and coastal resources.

**1976: Amendments to the Coastal Zone Management Act of 1972**

These amendments establish a Coastal Energy Impact Program (CEIP) within NOAA's Office of Coastal Zone Management to provide States with money to plan for and cope with the onshore impacts of various forms of energy development (particular OCS oil and gas) in the coastal zone.

**1977: Introduction of the Marine Science, Engineering, and Resource Development Act of 1977 (S.B. 447)**

This bill, introduced by Senator Hubert H. Humphrey, was never approved. It called for the establishment of a cabinet-level Marine Affairs Council to be chaired by the Vice President. The Council's responsibilities would have included a survey of significant marine activities, the development of a long-range marine activities program, an evaluation of the conduct of marine science activities, the resolution of conflicts among Federal marine agencies, an analysis of marine

legal problems, a cost benefit study for marine resources, and the administration of a marine grant program. Virtually the same Bill--S.B. 709--was introduced by Senator Humphrey in 1975.

**1977: Introduction of the National Oceanic and Atmospheric Administration Organization Act of 1977 (H.R. 9708 & S.B. 2224, respectively)**

These bills--introduced in the House by Representatives Murphy and Breaux and in the Senate by Senator Hollings--would strengthen NOAA's ocean authorities by transferring to it those functions vested with the following entities: the Department of Interior's Bureau of Commercial Fisheries (with certain freshwater exceptions) and the Marine Minerals Technology Center of the Bureau of Mines; certain marine science responsibilities in the National Science Foundation; and the (Great) Lakes Survey responsibilities of the ACOE.

**1977: Clean Water Act Amendments of 1977 (33 USC 1251-1376)**

These Amendments make several substantive changes of concern to potential ocean management. One is the extension of Federal government jurisdiction over oil spills from 12 miles to 200 miles offshore. The Amendments also bring oil spills from OCS drilling platforms and deepwater ports within the Act's coverage and increase the financial liability limits for oil spill clean-up costs.

**1977-1979: President Carter's Reorganization Study of Natural Resources and Environmental Functions**

This aspect of President Carter's Reorganization Project was designed to examine the effectiveness of the Federal government's environmental programs and develop appropriate mechanisms to improve existing organization and processes. Six reorganizational options were considered, including those under names of the Departments of 1) Resource Development and Environment and Conservation; 2) Natural Resources and Environment; 3) Ocean Resources and the Environment; 4) Agriculture and Renewable Resources; 5) Agriculture and Natural Resources; and 6) Resources and Conservation. As of November, 1978, the latter was preferred by the Administration, and would have included all of Interior (except the Bureau of Reclamation), the Forest Service, NOAA, the ACOE, the Water Resources Council, and the Marine Mammal Commission.

**1977-1978: Preparation of "The U.S. Ocean Policy in the 1970's: Status and Issues"**

This report was prepared under the direction of the Department of Commerce's Deputy Assistant for Policy. The study was designed to review the status of current ocean policies, studies, and programs, and focused special attention on the identification and status of major ocean issues. Individual chapters examine: the nation's stake in the oceans; marine fisheries; problems in

the coastal region; marine transportation; the marine environment and pollution; marine science and technology; and marine research and education. Governmental reorganizational recommendations are not addressed.

**1978: National Ocean Pollution Research and Development and Monitoring Planning Act (33 USC 1701 et seq.)**

**1978: Amendments to the Outer Continental Shelf Lands Act of 1953**

This legislation culminated several years of evaluating the Federal approach to managing OCS oil and gas development. Considerable industry opposition to the Amendments had to be resolved. The Amendments provide for more extensive State and public involvement, for the establishment of more extensive environmental safeguards, and for increased competition in the development of offshore oil and gas resources. Some of the more significant revisions: require new and replaced OCS facilities/equipment to utilize best available and safest technologies; provide the Secretary of Interior with authority to cancel a lease for environmental reasons; require timely submittal of industry development plans to affected state and local entities; establish a \$100-\$200 million Offshore Oil Pollution Fund to cover oil spill clean-up and damage costs; require partial use of a new bidding system for selling offshore leases; require concurrence from State Governors concerning the size, timing and lease locations of a proposed sale; and require offshore activities to be "consistent" with approved state CZM plans.

**1979: NACOA Recommends Creation of a New Consolidated Ocean Agency**

The National Advisory Committee on Oceans and Atmosphere recommends to the President and Congress that a new ocean agency be created to consolidate ocean activities. The new agency would include NOAA, the Coast Guard, the Maritime Administration, and other ocean-oriented programs in the Army Corps of Engineers; and the Commerce, Interior, Agriculture, and Transportation Departments. The National Aeronautics and Space Administration would also be included. A three-billion dollar budget is recommended for the proposed agency, exclusive of NASA. The Department of Natural Resources proposed by the President's Reorganization Plan is criticized as inadequate to deal with both land and ocean interests.

**Sources for Appendix B**

Laist, David, and Epting, John. "Marine Policy Evolution: A Reference Guide for Coastal Managers," Coastal Zone Management Journal, Volume 7, No. 1, 1980.

Hymes, William H. Ocean Functions of the Federal government of the United States. Congressional Research Service Report No. 80-190 ENR. Washington, D.C.: Congressional Research Service, October 1980.

# APPENDIX C

## FEDERAL AND STATE AGENCY OCEAN MANAGEMENT RESPONSIBILITIES

		FEDERAL																					
		DEPARTMENT/AGENCY																					
RESOURCE/ACTIVITY		Dept. of Agriculture	Dept. of Commerce	NOAA	NBS	Dept. of Defense	ACOE	Dept. of Energy	EPA	FEMA	FMC	Dept. of Health & Human Services	Dept. of Interior	FWS	MMS	NPS	Dept. of Justice	Dept. of Labor	OSHA	Marine Mammal Comm.	NASA	NSF	
Fisheries:	Commercial			●	△		○					○		○								○	
	Foreign Commercial			●	○																		
	Recreational			●	○									○									
	Aquaculture	○		●	○									○									
Marine Mammals				●	○									●	○					■			
Endangered Species				○										●	△								
OCS Oil & Gas:	Administration														●	△		■					
	Environmental			○	■				○	■					○								
	Pipelines														●								
	Safety & Health																	●					
Maritime Industry:	Onshore Ports/Harbors																						
	Offshore Ports							■															
	Navigation/Safety								■														
	Shipping/Shipbuilding										●												
Ocean Waste Disposal:	Sewage			○					●	○													
	Dredged Material			○			●	○															
	Industrial			○			●	○			○												
	Incineration						●	○															
Coastal Zone Mgt.:	Administration			●					■				○	■			■						
	Wetlands			■			●	○	●	○				○									
	Facility Siting			■	●		●																
	Hazards			○						●													
Coastal Recreation:	Parks			●	○									●	○	△							
	Recreational Boating																						
Marine Science:	Research/Education			○				○													○	○	
	Technology			○				○													○	○	
Seabed Mining				●	○										●	○						○	
Military																							

● Action Agency

■ Consultative

△ Enforcement/Compliance

○ Research

● Action Agency    ■ Consultative    △ Enforcement/Compliance    ○ Research

## STATE

[illegible]

- **Regulatory**
- **Enforcement/Compliance**
- **Research**

## APPENDIX D

### GULF OF MAINE MARINE RESOURCES AND ACTIVITIES REFERENCE PLATES

This Appendix consists of a series of reference plates showing resources and activities in the Gulf of Maine. The base map is modified from the Bureau of Land Management's Visual No. 1 in the series accompanying the Draft Environmental Impact Statement for OCS Sale No. 42 in the North Atlantic Region.

**Plate 1.—Precautionary areas**

Source: U.S. DOI, Bureau of Land Management, Draft EIS, OCS Sale No. 42, Visual No. 1; and, NOAA, Office of Coastal Zone Management, Eastern U.S. Coastal and Ocean Zones Data Atlas, August, 1980.

**Plate 2.—Coastal facilities**

Source: NOAA, Office of Coastal Zone Management, Eastern U.S. Coastal and Ocean Zones Data Atlas, August, 1980.

**Plate 3.—Offshore minerals**

Source: U.S. DOI, Bureau of Land Management, Draft EIS, OCS Sale No. 52, Visual No. 1; and, NOAA, Office of Coastal Zone Management, Eastern U.S. Coastal and Ocean Zones Data Atlas, August, 1980.

**Plate 4.—Parks/sensitive areas**

Source: U.S. DOI, Bureau of Land Management, Draft EIS, OCS Sale No. 42, Visual No. 1.

**Plate 5.—Living resources**

Source: U.S. DOI, Bureau of Land Management, Draft EIS, OCS Sale No. 52, Visual No. 5; and, NOAA, Office of Coastal Zone Management, Eastern U.S. Coastal and Ocean Zones Data Atlas, August, 1980.

**Plate 6.—Fishing activity**

Source: U.S. Coast Guard, First Coast Guard District, excerpts of data collected for the First District Port Access Route Study; original data compiled by National Marine Fisheries Service.

**Plate 7.—Military bases and operating areas**







Source: Commander in Chief, U.S. Atlantic Fleet, Atlantic Fleet Operating Areas; NOAA, Marine Weather Services Chart Eastport, ME to Montauk Point, NY, September, 1981; Defense Mapping Agency, Hydrographic/Topographic Center, Map of Major Army, Navy, and Air Force Installations in the United States, Series 8205, 46 DMA, January 1, 1982.

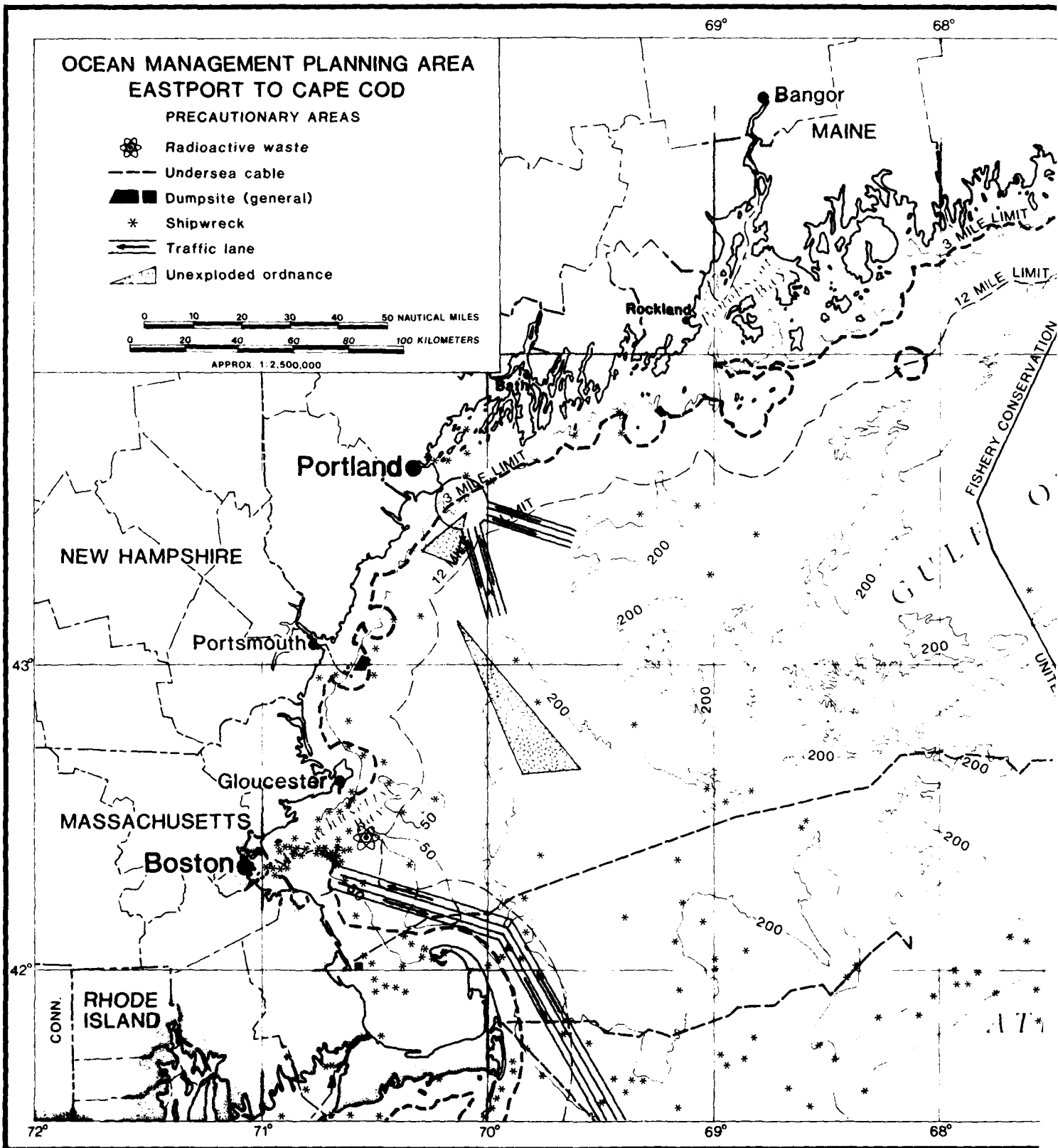
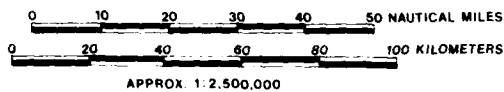
**Note:** Shaded areas of coastal margins on all plates indicate the extent of the coastal zone as defined in each State's coastal zone program.



# OCEAN MANAGEMENT PLANNING AREA EASTPORT TO CAPE COD

## PRECAUTIONARY AREAS

-  Radioactive waste
-  Undersea cable
-  Dumpsite (general)
-  Shipwreck
-  Traffic lane
-  Unexploded ordnance



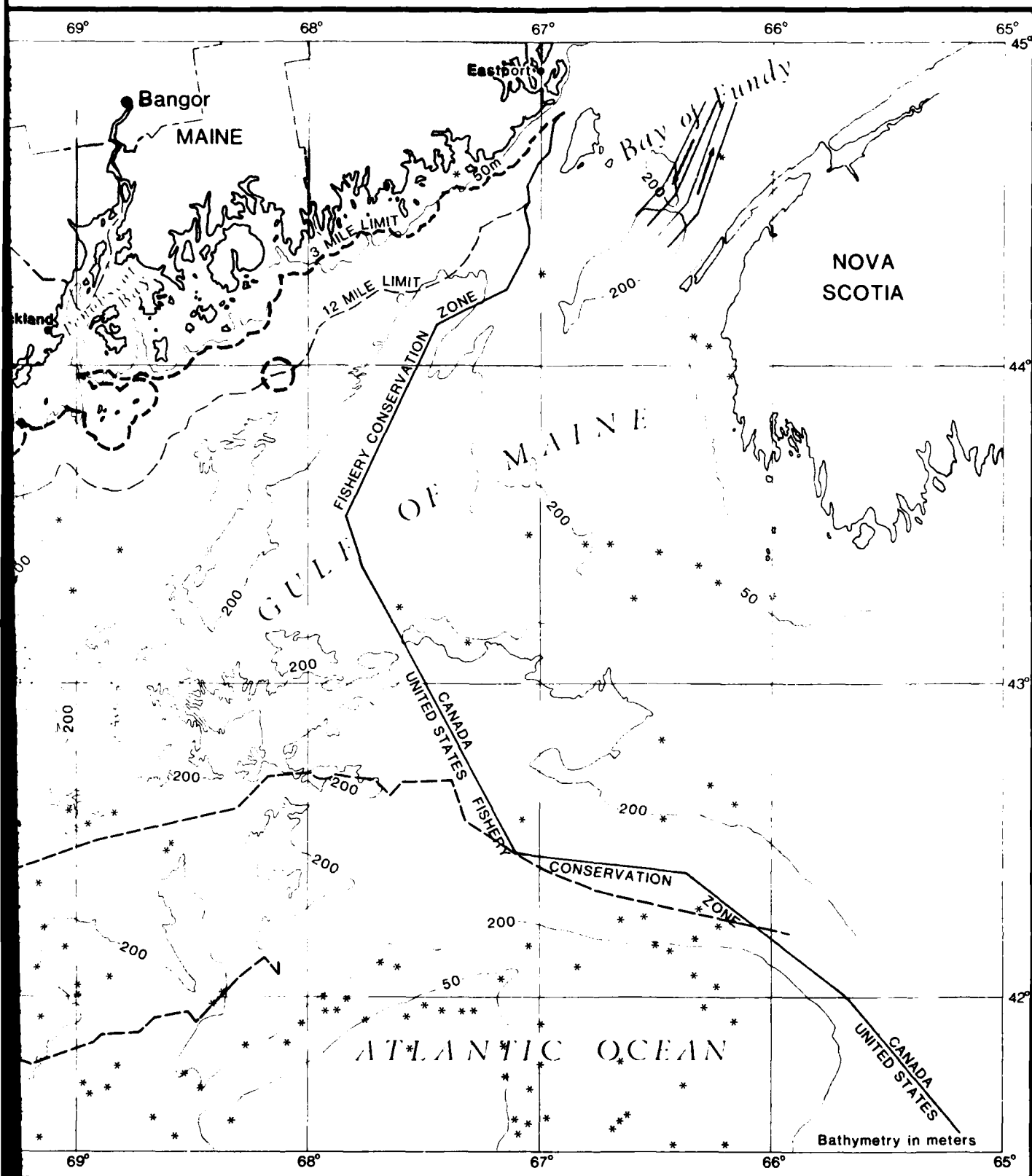
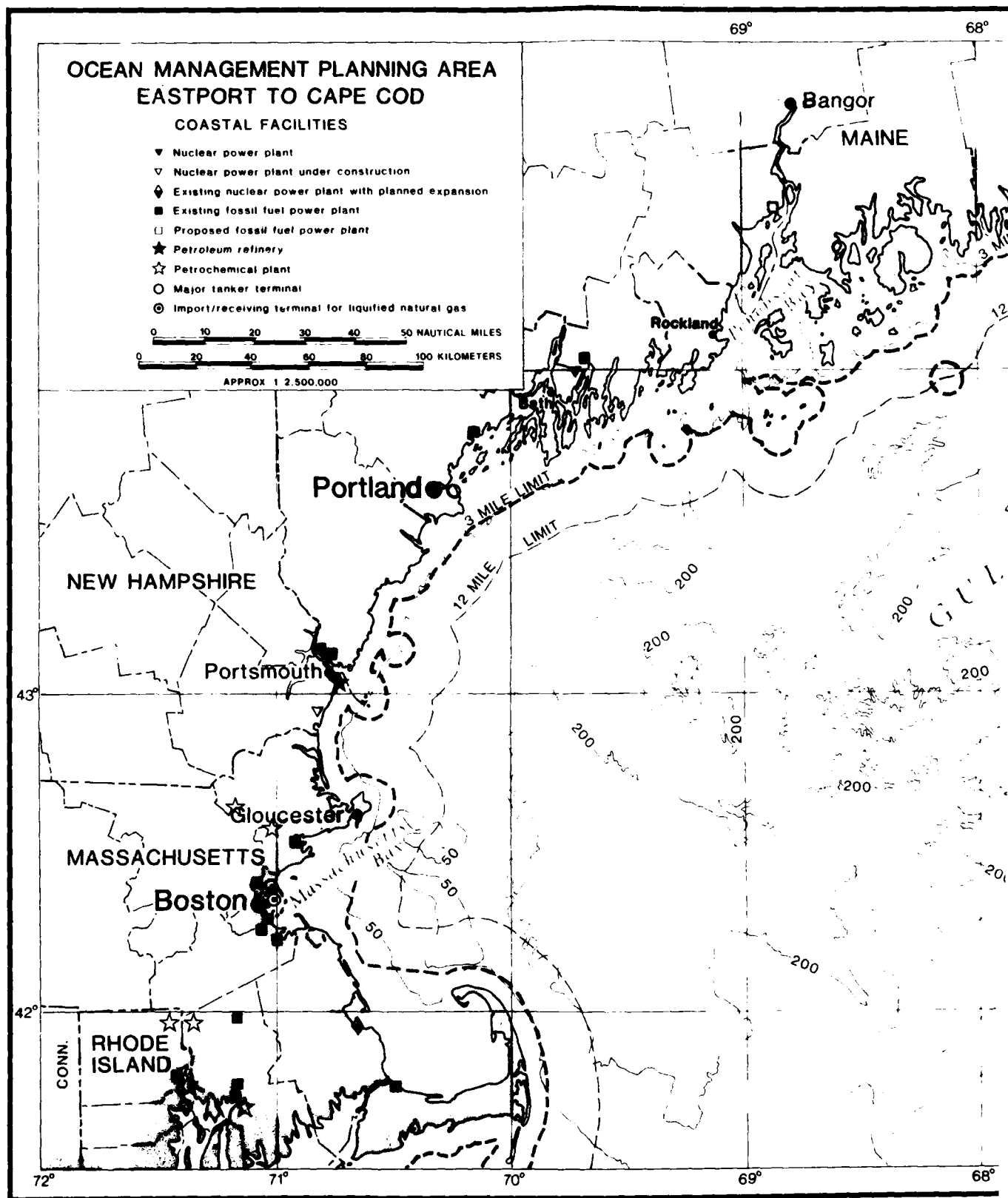


PLATE 1

2



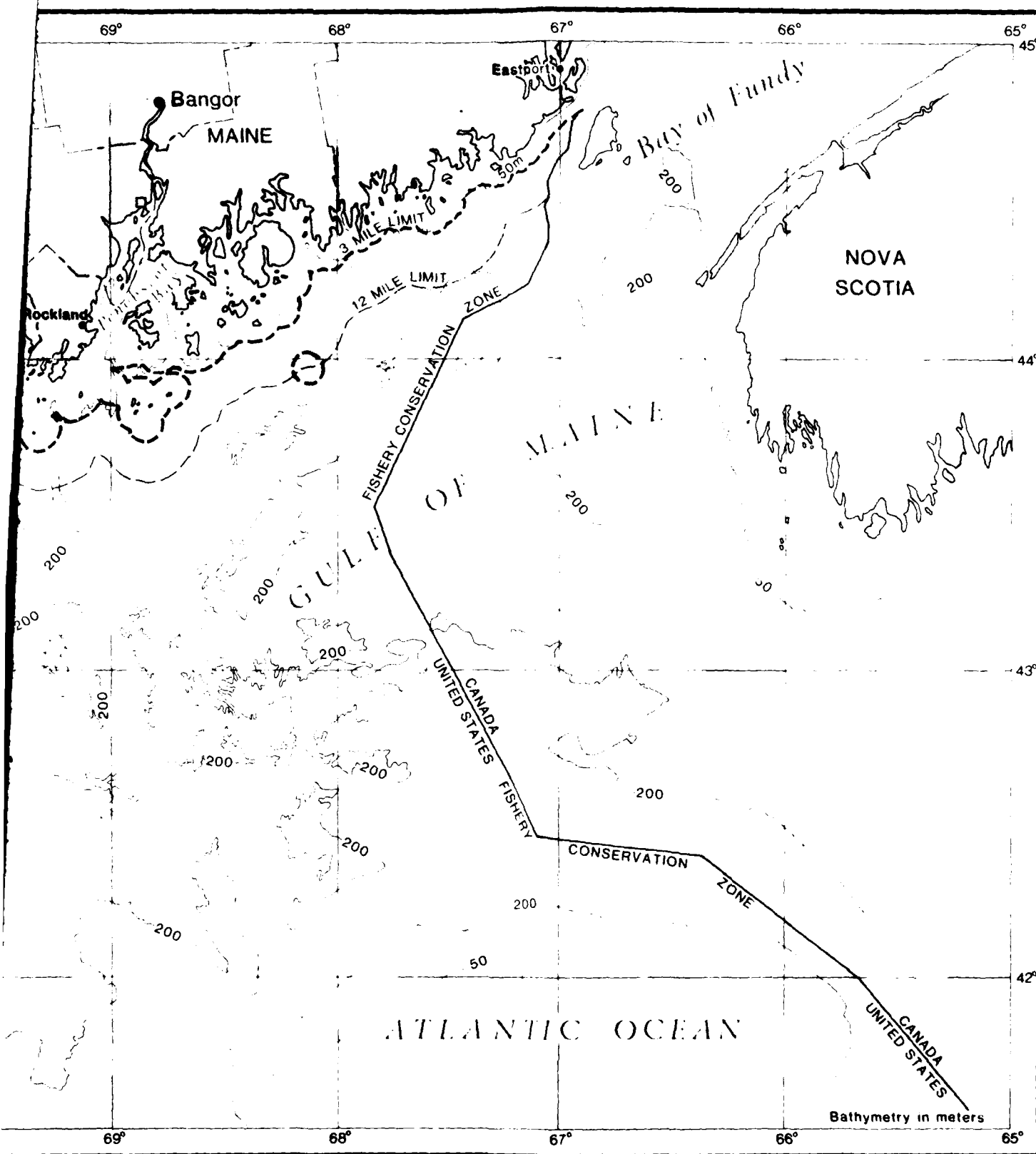


PLATE 2

2

# OCEAN MANAGEMENT PLANNING AREA EASTPORT TO CAPE COD

## OFFSHORE MINERALS


### UNITED STATES

 Area proposed for future leasing

### CANADA

 Lease application

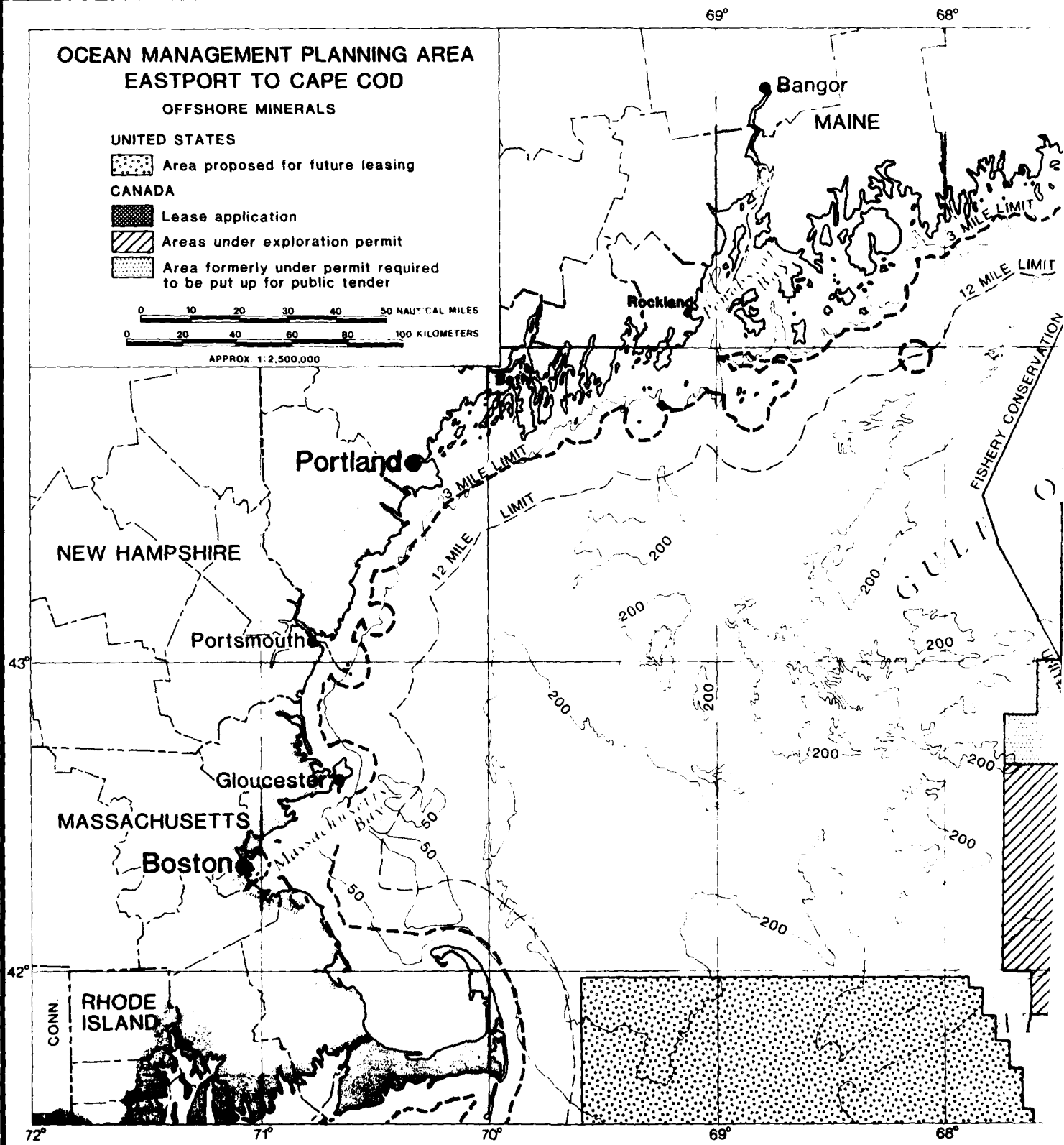
 Areas under exploration permit

 Area formerly under permit required to be put up for public tender

0 10 20 30 40 50 NAUTICAL MILES

0 20 40 60 80 100 KILOMETERS

APPROX 1:2,500,000



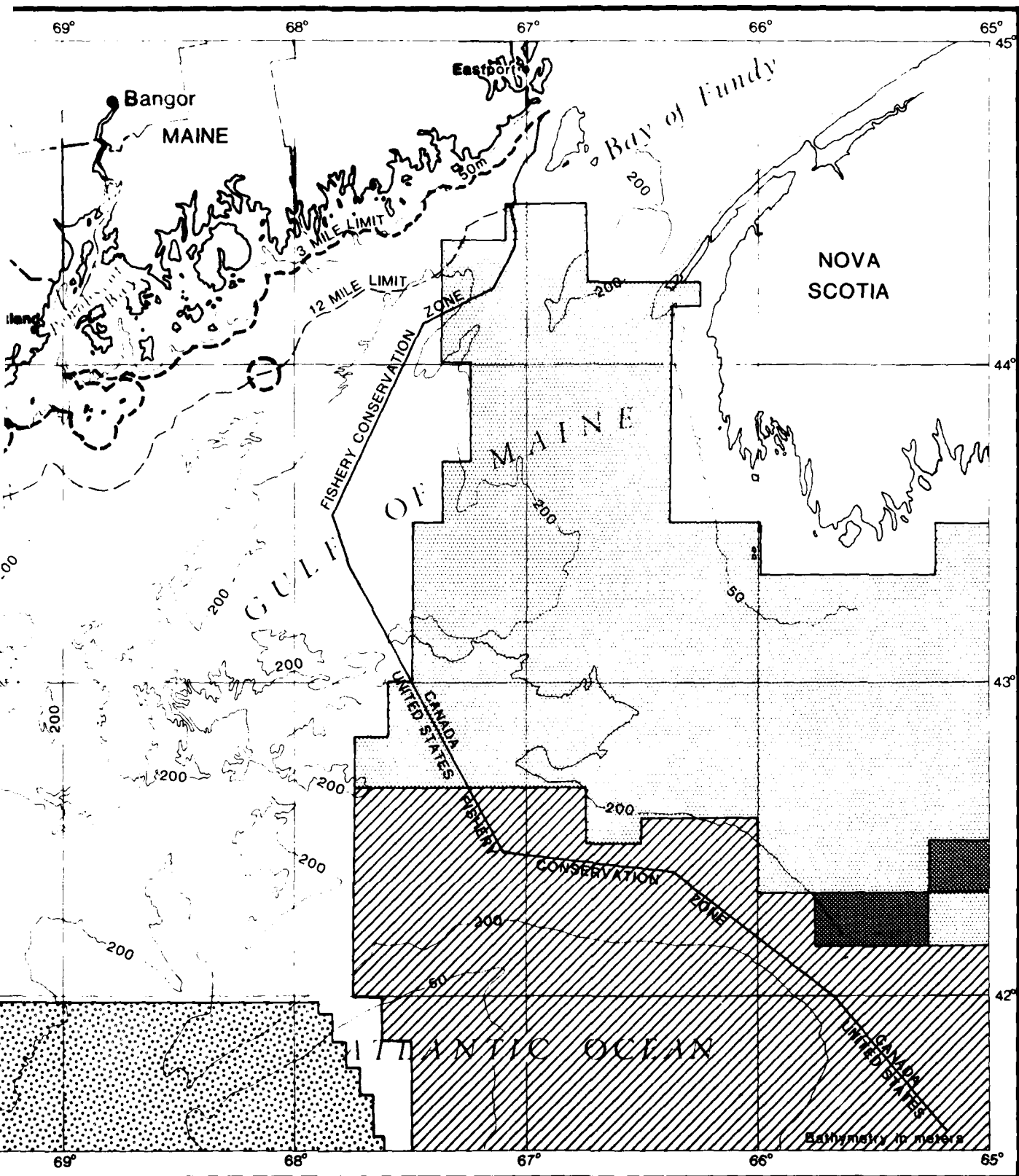
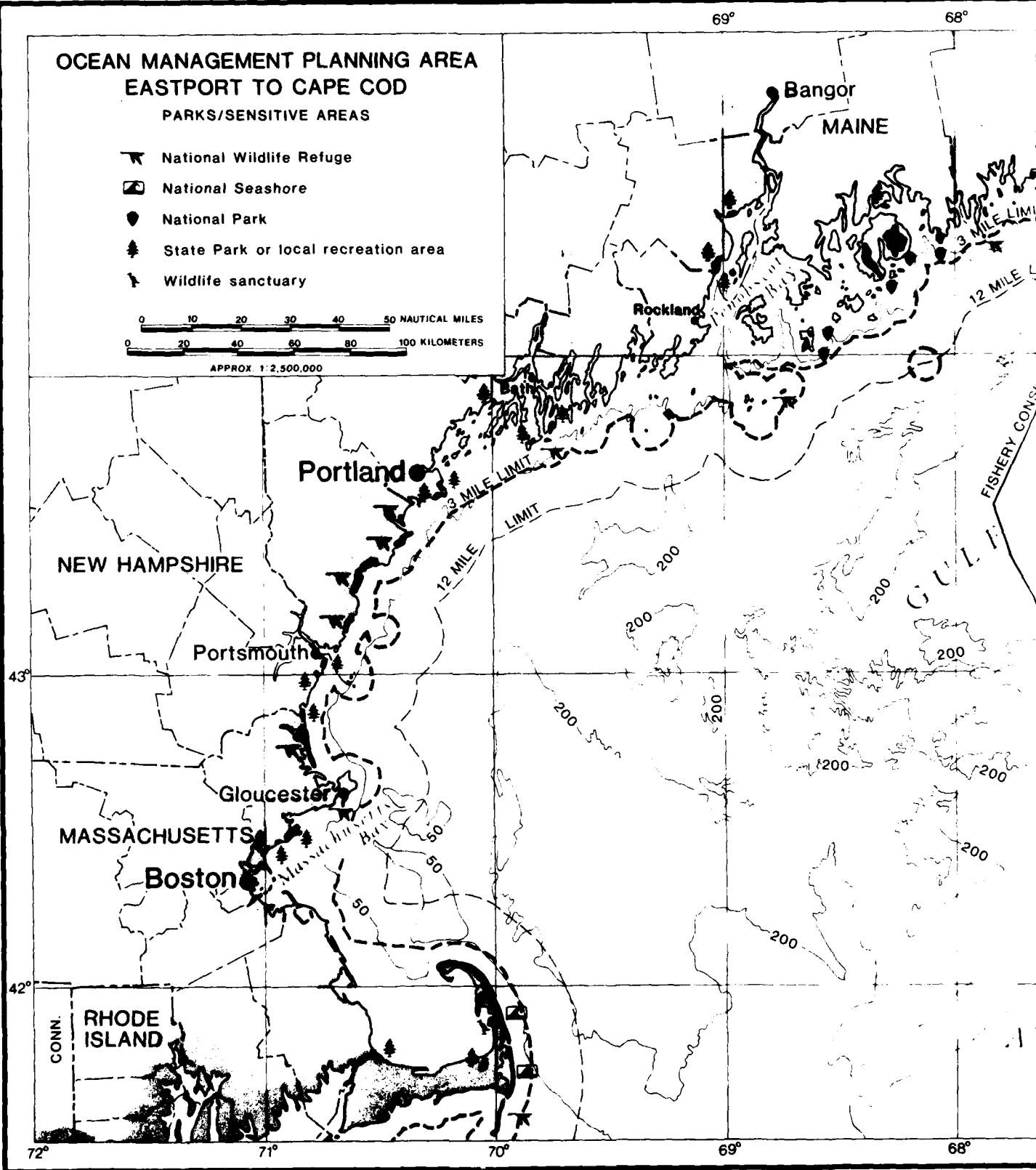


PLATE 3

2

### PARKS/SENSITIVE AREAS

- 
- 0 10 20 30 40 50 NAUTICAL MILES
- 0 20 40 60 80 100 KILOMETERS
- APPROX. 1:2,500,000



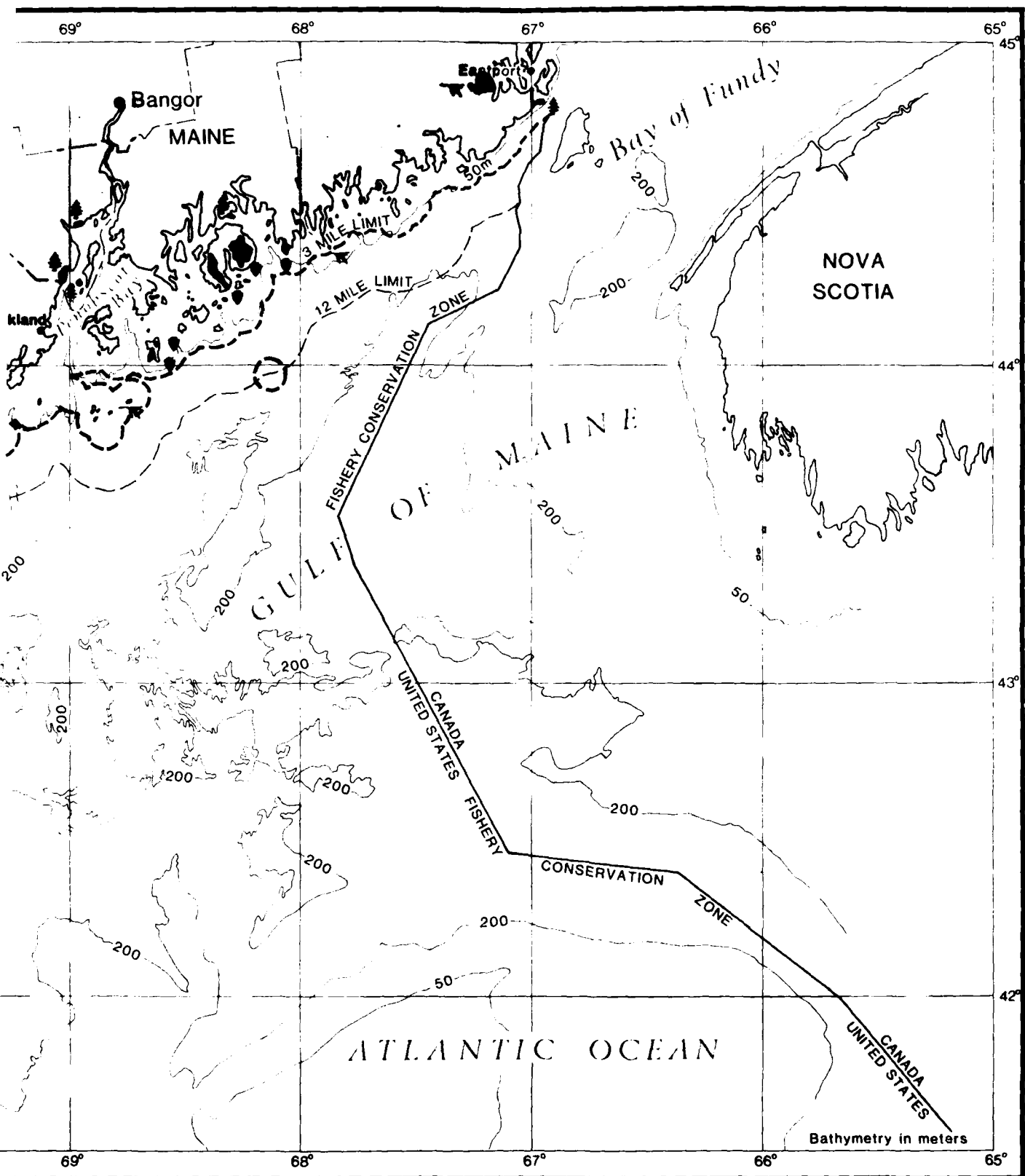










PLATE 4

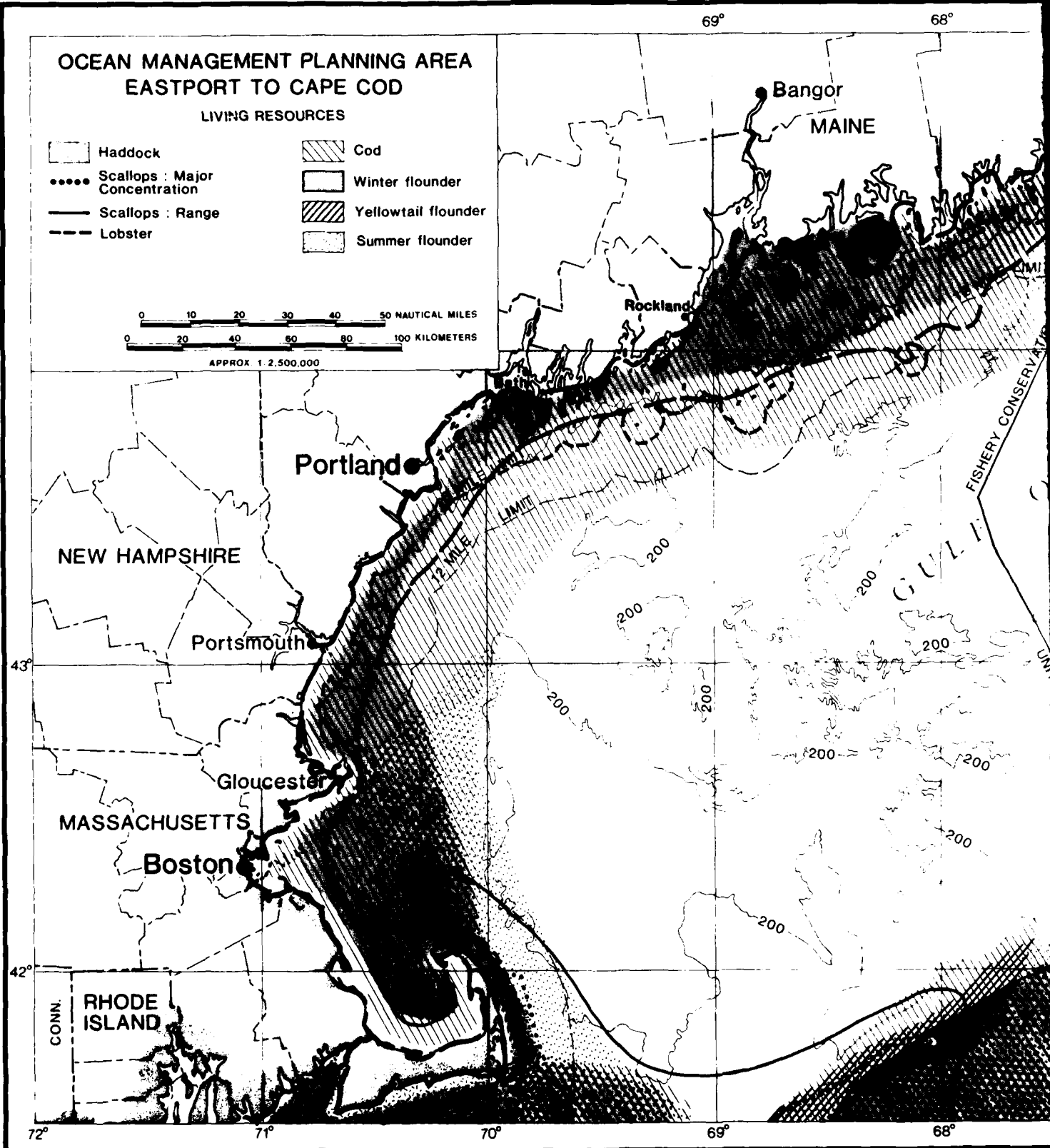
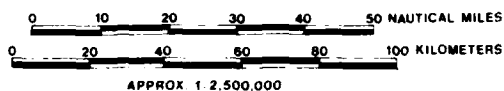
2

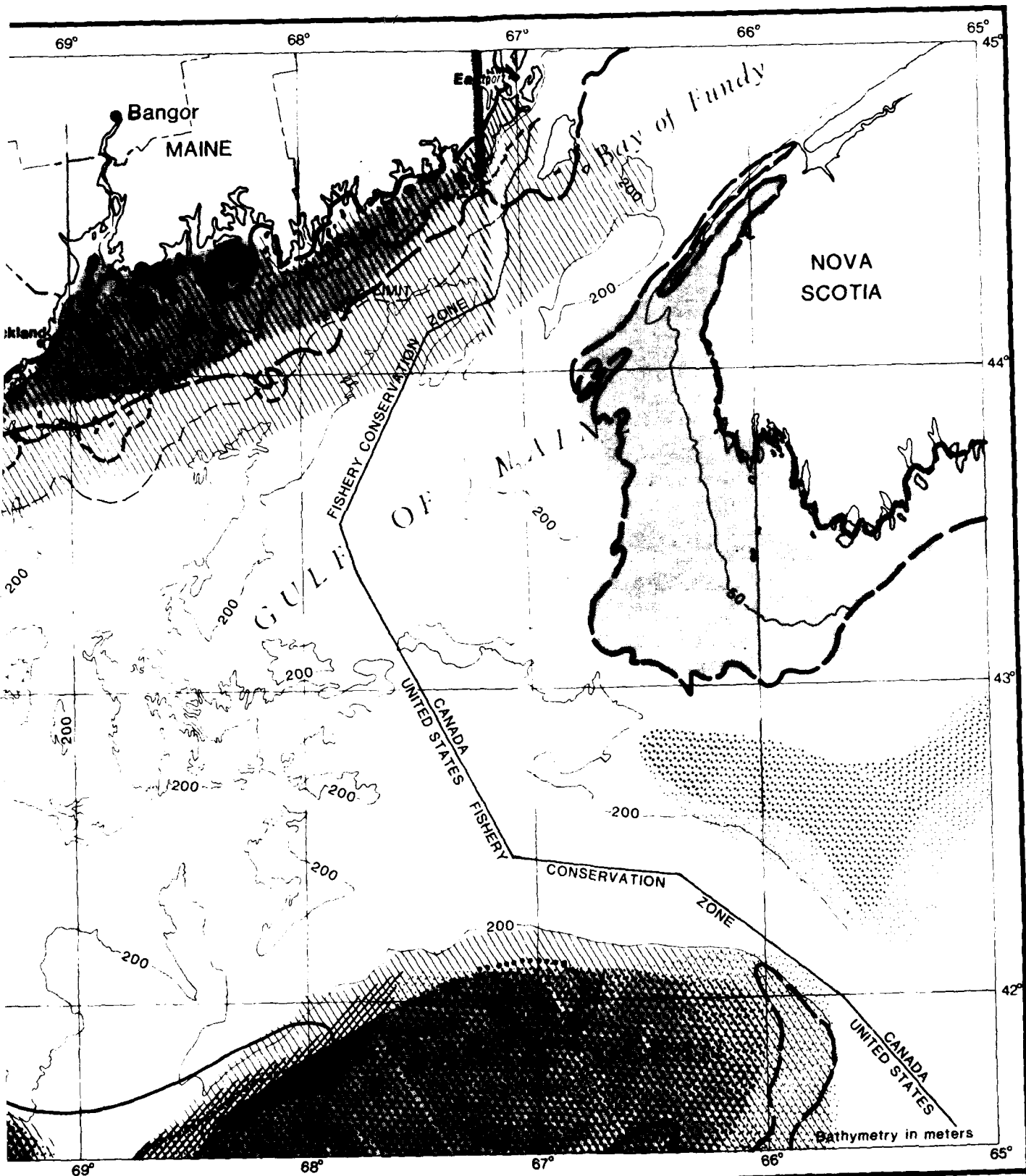


# OCEAN MANAGEMENT PLANNING AREA EASTPORT TO CAPE COD

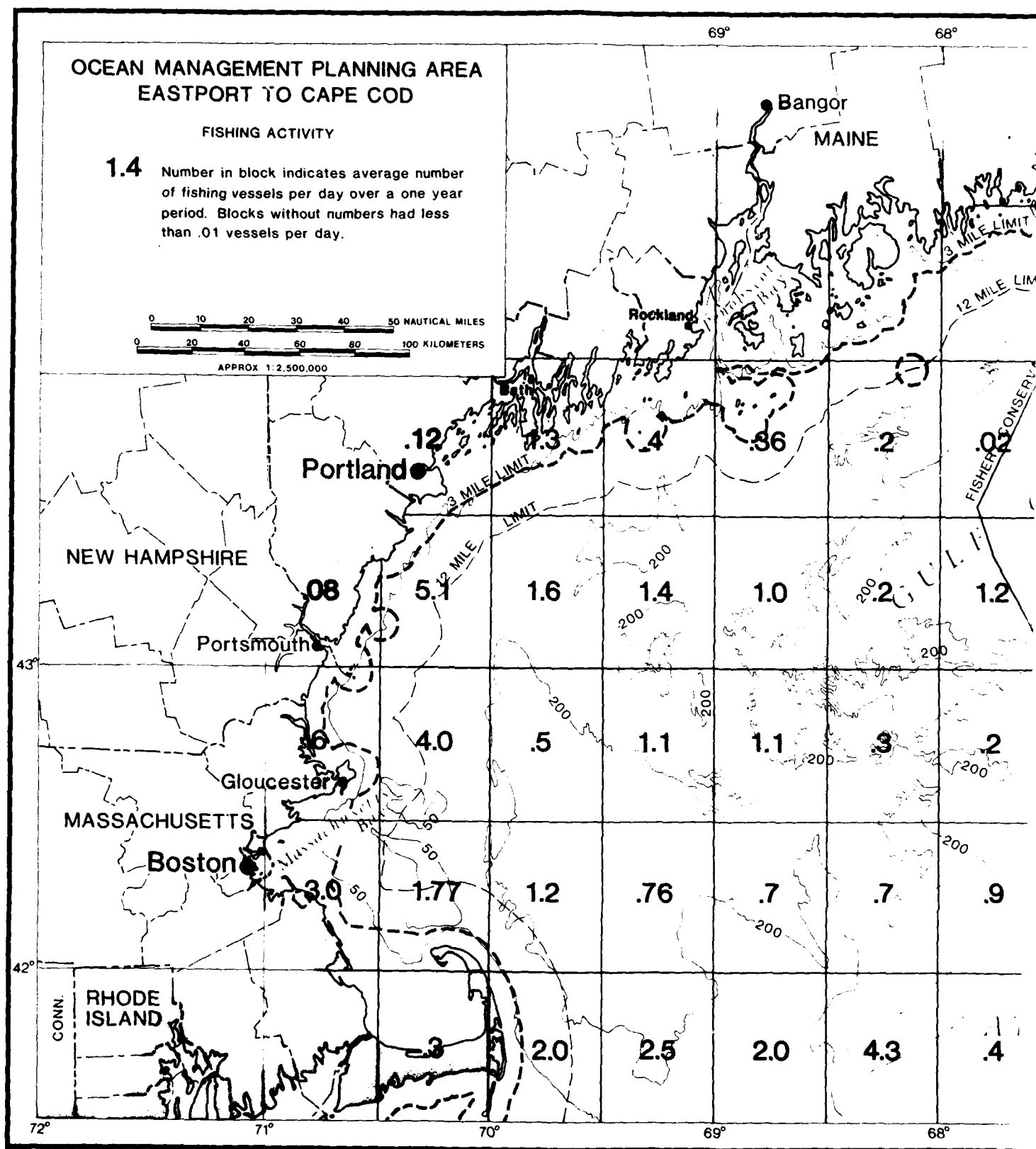
## LIVING RESOURCES

- |  |   |
|--|---|
|  Haddock                        |  Cod                 |
|  Scallops : Major Concentration |  Winter flounder     |
|  Scallops : Range               |  Yellowtail flounder |
|  Lobster                        |  Summer flounder     |





2  
PLATE 5



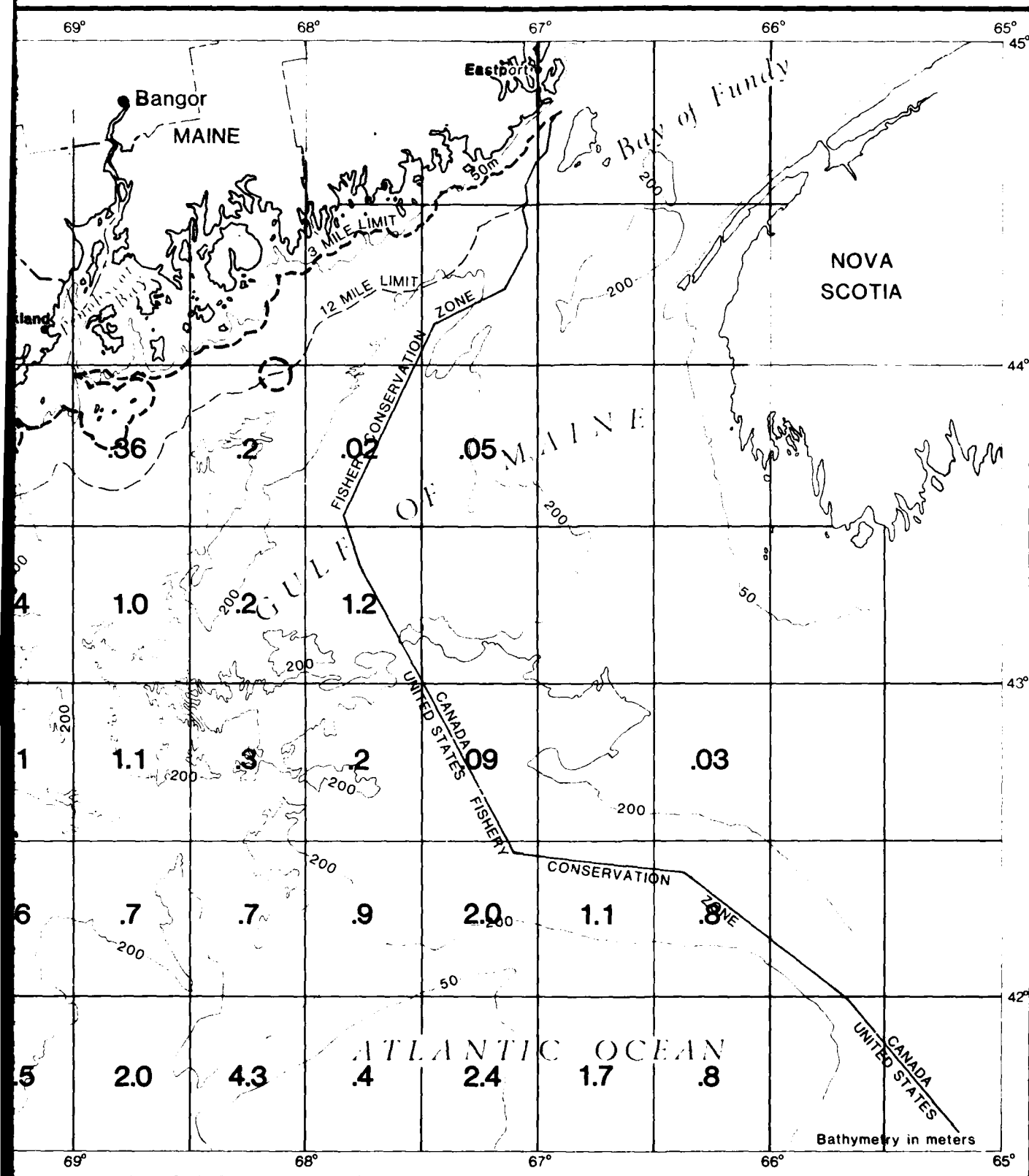


PLATE 6

2

# OCEAN MANAGEMENT PLANNING AREA EASTPORT TO CAPE COD

## MILITARY BASES AND OPERATING AREAS

### MILITARY BASES

- ▲ Coast Guard
- Navy and Marine
- ( ) Army
- Air Force

### TARGETS

- \* Small point mining range

### SPECIAL USE AIRSPACE

- R-4101 Surface to 9,000 feet
- W-103 Surface to 2,000 feet
- W-102 Surface to 60,000 feet
- W-104 Surface to unlimited

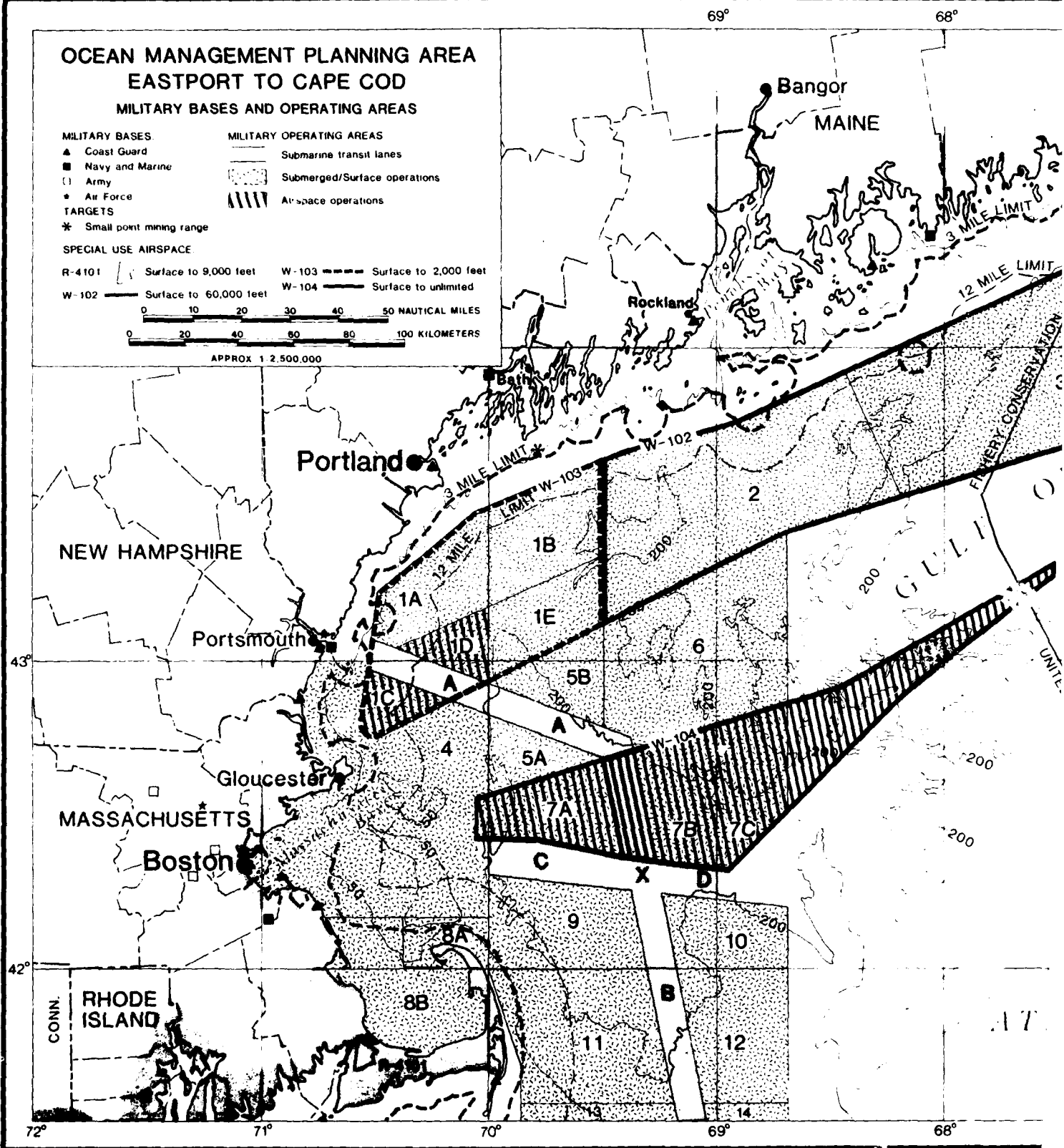
### MILITARY OPERATING AREAS

- Submarine transit lanes
- Submerged/Surface operations
- Air space operations

0 10 20 30 40 50 NAUTICAL MILES

0 20 40 60 80 100 KILOMETERS

APPROX 1:2,500,000



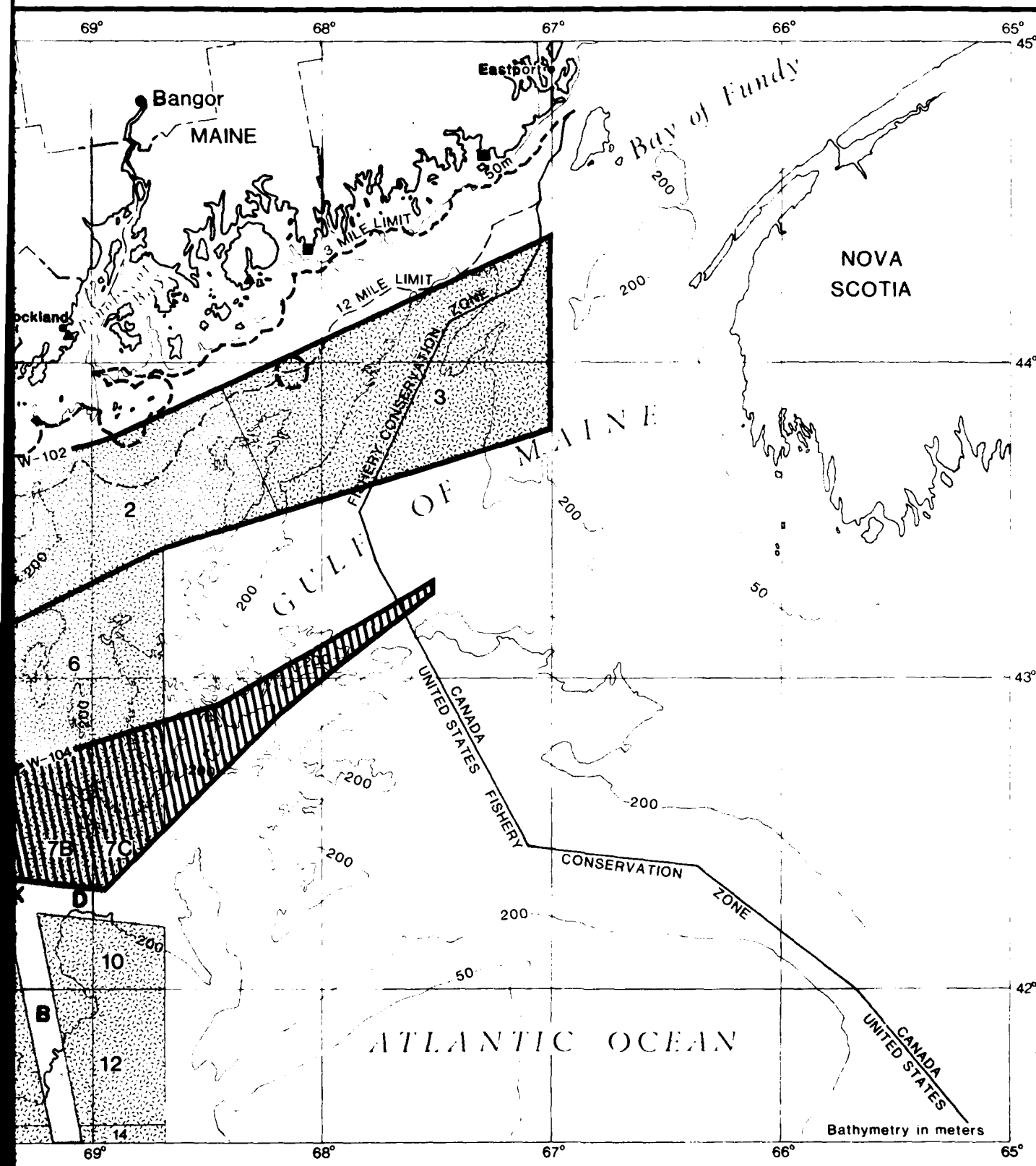


PLATE 7

**APPENDIX E**  
**MAJOR DOMESTIC OCEAN STATUTES**

This Appendix is composed of major ocean statutes arranged by functional category. Those covered represent the major statutes in a functional category and are by no means the sole applicable laws. Within each category the statutes are arranged chronologically and each is followed, within parentheses, by an itemization of the major Federal agencies affected.

**A. COAST AREA MANAGEMENT**

**1) Rivers and Harbors Act, as amended (1899)**

Under Section 10 of this Act the ACOE, in 1968, significantly expanded the area subject to its dredge and fill review by broadening the definition of "navigable waters." (ACOE).

**2) Land and Water Conservation Fund Act (1965)**

Created a special Land and Water Conservation Fund derived from several types of revenue, though primarily from OCS development revenues, and authorized appropriations from the Fund for (1) matching grants to States for outdoor recreation projects, and (2) various Federal purposes. (DOI).

**3) National Environmental Policy Act (1969)**

This Act requires that environmental impact statements be written for all major Federal actions affecting water or land resources--in consultation with other relevant Federal agencies--to minimize harm to the environment.

**4) Coastal Zone Management Act (1972)**

Institutes a program encouraging coastal States to adopt comprehensive land use plans for their coastal zones. The Act establishes national standards for State programs, and provides funding and other incentives. Provides for States to address a variety of problems including beach access, wetland and estuarine area regulation, and OCS energy related impacts. (NOAA)(see D7, below).

**5) Federal Water Pollution Control Act (1977)**

Section 404 of this Act establishes the wetlands dredge and fill regulatory program of the Army Corps of Engineers (ACOE) (See C2 and D9, below).

**6) Coastal Barrier Resources Act (1982)**

Bars property owners from receiving federal aid for development purposes or for flood insurance on about 700 miles of barrier islands that have been determined by the Secretary of the Interior to be undeveloped. (DOI).

**B. FISHERIES**

**1) Atlantic States Marine Fisheries Commission Act (1942)**

An interstate compact authorized by the U.S. Congress to allow the Atlantic States to jointly manage and regulate interstate fisheries within the territorial sea. (NMFS).

**2) Commercial Fisheries Research and Development Act (1964)**

Authorizes research on, and development of, commercial fisheries of the U.S. in cooperation with coastal States. (NMFS).

**3) Anadromous Fish Conservation Act (1965)**

Authorizes the Secretary of the Interior, in cooperation with other Federal agencies and the States, to conserve, develop, and enhance the anadromous fisheries resource of the U.S. subject to water development projects. (DOI)

**4) Marine Mammal Protection Act (1972)**

Commits the U.S. to long-term management and research programs and efforts to conserve and protect marine mammals. With a few exceptions bans the taking, or importing of marine mammals, into the U.S. Jurisdiction covers the FCZ and U.S. nationals on the high seas. (NMFS; DOI; Marine Mammal Commission).

**5) Endangered Species Act (1973)**

Prohibits the taking of species listed by the Secretary of Interior as endangered or threatened. (DOI; DOC).

**6) Fishery Conservation and Management Act (1976)**

Extends U.S. jurisdiction over all fish within the Fishery Conservation Zone (3-200 n.m.) excluding tunas; all continental shelf fisheries beyond the FCZ; U.S. anadromous species throughout their range - except where international agreement provides otherwise. The FCMA further establishes procedures for access to the U.S. FCZ by foreigners and establishes that levels of fishing effort for both foreign and domestic fisherman are to be determined by eight regional fisheries management councils - as approved by the Secretary of Commerce, in consultation with other Federal agencies. (NMFS, USCG, DOS).



7) **National Aquaculture Act (1980)**

Required the Secretaries of Agriculture, Interior, and Commerce to cooperate in producing a National Aquaculture Development Plan for the promotion of the domestic aquaculture industry.

C. **OCEAN POLLUTION**

1) **Marine Protection, Research and Sanctuaries Act (1972)**

Pertains to the dumping of material into the ocean. The Act assigned EPA the responsibility for all materials other than dredged material - which went to the Army Corps of Engineers. Further, the Act allows establishment of marine sanctuaries. (ACOE, EPA, NOAA)(see D6, below).

2) **Federal Water Pollution Control Act (1977)**

This Act establishes the Army Corps of Engineers wetlands dredge and fill regulatory program and covers dredged material disposal within U.S. navigable waters including the territorial sea. Further, the FWPCA maintains jurisdiction over U.S. flag vessels and point source discharges whenever they operate. (EPA, ACOE) (See D9, below and A5, above).

3) **National Ocean Pollution Research and Development and Monitoring Planning Act (1978)**

Provided a procedural mechanism for coordinating Federal programs focused on marine pollution. The coordination is to be derived from periodic promulation of a five-year plan for such Federal activities.

D. **OCS ENERGY AND MINERALS**

1) **Submerged Lands Act (1953)**

Established offshore jurisdiction of the coastal States and Federal government. The States were granted three n.m., except for the Gulf Coasts of Texas and Florida which were granted three marine leagues (10.5 n.m.), the Federal government maintained jurisdiction for the remainder of the continental shelf.

2) **Outer Continental Shelf Lands Act (1953), as amended (1978)**

Establishes the administrative procedures by which the Department of the Interior leases the seabed and subsoil of the continental shelf, inventories resources, and monitors exploration and development/production. To date, only oil and gas have been produced under this Act. DOI has, however, instituted a program for leasing hard minerals on the OCS. (DOI, USCG, ACOE, DOJ).

3) **Fish and Wildlife Coordination Act, as amended (1958)**

Requires that fish and wildlife receive equal treatment in Federal decision-making regarding Federal water projects to ensure proper conservation input. (DOC).

4) **Clean Air Act (1963)**

Establishes criteria for air pollutant emission regulation of OCS development projects which affect the air quality of adjacent coastal States.

5) **Natural Gas Pipeline Safety Act (1968)**

Establishes administrative procedures for construction and operations of OCS pipelines. (DOT).

6) **Marine Protection, Research and Sanctuaries Act (1972)**

Regulates the transportation and dumping into ocean waters of any material, and prohibits dumping of materials harmful to human health or welfare, the marine environment, or economic potential thereof. Establishes dredged material permit program, research programs on the effects of dumping, and a sanctuaries program. The sanctuaries program provides for the reservation of marine areas for their conservation, recreational, ecological, or esthetic value and allows control of other activities which would be adverse to the integrity of the sanctuary. (NOAA, EPA, ACOE).

7) **Coastal Zone Management Act, as amended (1972)**

Provides that OCS activities having an effect on an adjacent coastal State's coastal zone be conducted in a manner consistent with that State's coastal zone management program. The category of activities subject to this provision includes OCS exploration, development/production, transportation, and storage or refining. (NOAA, DOI) (See also A4, above).

8) **Deepwater Port Act (1974)**

A deepwater port is classified as any fixed structure beyond the territorial sea which is involved in transporting oil on the OCS. The Act assigns the Coast Guard the responsibility of assuring the safety of these operations. (USCG).

9) **Federal Water Pollution Control Act, as amended (1977)**

Authorized EPA to establish water pollution control for U.S. waters, including waters above the OCS. This act also regulates dredge and fill activities and establishes an offshore oilspill liability fund to cover clean-up and damage costs prior to cost-recovery from the polluter. (EPA).

**10) Deep Seabed Hard Mineral Resources Act (1980)**

Provides domestic procedures for the future mining of mineral resources beyond the outer continental shelf pending resolution of the Law of the Sea Conference. This Act was designed primarily for mining of manganese nodules but should apply to most deposits of polymetallic sulfides. (NOAA).

**E. PORTS AND COMMERCIAL SHIPPING**

**1) Port and Waterways Safety Act (1970), as amended (1978)**

Designed to promote the safety of ports, harbors, waterfront areas, and the marine environment. The Act accomplishes this by providing the Coast Guard with the regulatory authority for vessel operations within these areas of the U.S., for the purposes of safety.

**2) Deepwater Port Act (1974)**

Establishes right of U.S. to permit the construction and supervision of offshore ports beyond the territorial sea--primarily designed for offshore oil ports. The Act assigns the Coast Guard the responsibility of ensuring the safety of these ports.

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